Works Approval Application

Application Form and Supplementary Information

Categories 61, 61A, and 62

Location

13 Musson Rd, Wattleup WA 6166

Prepared by

HazRad Australia Pty Ltd

Date of Submission: 30 May 2025

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TABLES

1.0 INTRODUCTION

This report has been prepared to support a Works Approval application by HazRad Australia Pty Ltd for the establishment of a Waste Management Facility (the Facility), at 13 Musson Rd, Wattleup WA 6162. The proposed Facility location sits within the Latitude 32 Industry Zone.

The license application is for operating a prescribed premises under Part V of the *Environment Protection Act 1986* and the proposed categories and throughputs per annum (PA) as detailed in Table 1.

Table 1 – Proposed Prescribed Premises Categories

CATEGORY	DESCRIPTION	CATEGORY PRODUCTION OR DESIGN CAPACITY	PROPOSED DESIGN CAPACITY
61	Liquid Waste Facility	100 tonnes or more PA	20,000 tonnes PA
61A	Solid Waste Facility	1,000 tonnes or more PA	20,000 tonnes PA
62	Solid Waste Depot	500 tonnes or more PA	20,000 tonnes PA

The activities to be conducted under each premises category is generally as follows.

Category 61: *Premises on which liquid waste produced on other premises (other than sewerage waste) is stored, reprocessed, treated or irrigated.*

The proposed facility will accept bulk and packaged controlled liquid wastes including waste chemicals, acids, bases and bulk liquid waste which cannot be traditionally treated and discharged.

Category 61A: *Premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land.*

The proposed facility will accept various solid wastes, including empty packages i.e., drums, IBCs contaminated with residues of controlled waste. Solid wastes will be segregated and held, pending approval, before uplift by licensed carriers for transport to a licensed disposal facility.

Category 62: *Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-used.*

Solid wastes will be segregated and held, pending approval, before uplift by licensed carriers for transport to a licensed disposal facility.

Acceptance of wastes will include various solids including asbestos based wastes. Solid wastes will be segregated and held for uplift by licensed transporters to final disposal facilities pending approval.

1.1. BACKGROUND

HazRad Australia Pty Ltd is a WA based, majority Aboriginal owned waste management business established in 2018. HazRad is listed on the Aboriginal Business Directory and is Supply Nation Certified. Hazard holds DWER Controlled Waste Vehicle Licenses, Radiation storage (Radiological Council Western Australia), ANSTO, ASNO, and Dangerous Goods site licences for our existing premises. The directors and employees of HazRad have extensive experience within the waste management, remediation and environmental services industry across Australia and are a DMIRS approved Emergency Responder.

HazRad proposes to operate a facility (the subject of this application) which will receive liquid and packaged controlled wastes and dangerous goods from industries operating primarily in the following sectors:

- manufacturing
- oil and gas
- mining
- industrial
- government
- healthcare; and
- automotive.

Waste materials to be received at the facility include non-flammable paints & resins, hydrocarbons, batteries, oils, greases and other controlled wastes including asbestos. A listing of the estimated waste types and volumes is provided later in this document.

Volumes of industrial wastes in Western Australia continue to increase year on year with the decommissioning of many oil and gas platforms and associated supporting industries. Waste producers continue to strive for better environmental outcomes to minimise the impact of their operations. HazRad has been established to provide technical solutions for difficult or problematic industrial wastes produced by Western Australian industry and to manage them in a safe and sustainable manner maximising reuse and recycling over traditional treatment and disposal options.

HazRad's vision is to make a positive contribution to sustainable change for Indigenous Australians and to work to establishing positive relationships with local communities. We are proud to firstly support and engage other aboriginal or indigenous companies. The key to every successful project is community engagement. We acknowledge the traditional owners of the country we work on and pay our respects to them, their culture and their Elders past, present and future.

HazRad accepts the same controlled waste categories and special type wastes (asbestos) referred to by this application at its existing Bibra Lake operation. At no time has HazRad received complaints from the DWER, DMIRS or City of Cockburn regarding any other of it's existing operations.

Proposal Benefits

The benefits that this development will provide include the following:

- Aboriginal Employment
- Aboriginal Cultural Enhancement

- Aboriginal Presence in Waste and Environmental Services
- Waste disposal solutions for problematic waste streams
- Location and logistics
- Enhanced resource recovery

Proposed Site Attributes and Logistics

Proposed site attributes:

- Area ~0.78 hectares
- Zoned: Industry - General
- Bitumen hardstand
- Electric front security gate at the property
- Shared use of weighbridge for tonnages in and out
- Established cyclone fence at perimeter
- Strategic neighbours to the east: Henderson Waste Recovery Park - City of Cockburn

The proposed HazRad Wattleup facility is strategically located near the future Western Australian Government Westport and the Henderson Marine Complex. The site is also located within the Latitude 32 Industry Zone. The facility shall provide essential waste management infrastructure for which there is increasing demand. The facility is well situated with regard to transport links to Kwinana Freeway, Roe Highway and other major haulage routes.

Site Classification – Contaminated Sites Act 2003

The proposed site for the facility has been classified under the *Contaminated Sites Act 2003* as "remediated for restricted use". A site management plan (Attachment 8A, SMP, Aurora Environmental, 2021) is in place for the overall management of the contaminated site (a former inert waste landfill), especially concerning any activities at the site that may require intrusion into the subsurface contaminated fill layer, approximately 350 mm below the site surface. This applies to some of the proposed activities that will occur during the facility's construction phase, which is discussed further in Attachment 3B of this document.

Enhanced Recovery

With the specialist knowledge and experience of the directors and employees of HazRad, this facility will expand HazRad's current operational capacity, providing redundancy for targeted higher-volume activities currently undertaken at the existing HazRad Bibra Lake facility.

Waste Types Accepted

The facility will be licensed to accept all categories of controlled waste as described in **Attachment 1, Table 9.2**.

2.0 ATTACHMENT 1: DWER WORKS APPROVAL APPLICATION FORM (IR-F09 V14.0)

Application form: Works Approval / Licence / Renewal / Amendment / Registration

Part V Division 3, *Environmental Protection Act 1986*
Environmental Protection Regulations 1987

Part 1: Application type

INSTRUCTIONS:

- **Completion of this form is a statutory requirement under s.54(1)(a) of the *Environmental Protection Act 1986* (WA) (EP Act) for works approval applications; s.57(1)(a) for licence and licence renewal applications; s.59B(1)(a) for applications for an amendment; and under r.5B(2)(a) of the Environmental Protection Regulations 1987 (WA) (EP Regulations) for applications for registration of premises.**
- **The instructions set out in this application form are general in nature.**
- **A reference to 'you' in these instructions is a reference to the applicant.**
- **The information provided to you by the Department of Water and Environmental Regulation (DWER) in relation to making applications does not constitute legal advice. DWER recommends that you obtain independent legal advice.**
- **Applicants seeking further information relating to requirements under the EP Act and/or EP Regulations are directed to the Parliamentary Counsel's Office website (www.legislation.wa.gov.au). Schedule 1 of the EP Regulations contains the categories of prescribed premises.**
- **For prescribed premises where activities fall within more than one category, ALL applicable categories must be identified. This applies for existing prescribed premises seeking renewal or amendment, as well as new prescribed premises.**
- **The application form must be completed with all relevant information attached. Attachments can be combined and submitted as one or more consolidated documents if desired, provided it is clear which section of the application form the information / attachments relate to. Where attachments are submitted separately, avoid duplicating information. Ensure that any cross-references between the application form and the supporting document(s) are accurate.**
- **If an application form has been submitted which is incomplete or materially incorrect, the Chief Executive Officer of DWER (CEO) will decline to deal with the application and advise the applicant accordingly.**
- **On completing this application form, please submit it to DWER in line with the instructions in Part 15 of the form.**

1.1	**This is an application for:** *[Select one option only. Your application may be returned if multiple options are selected.]* under Part V, Division 3 of the EP Act. Please see the: • *Guideline: Industry Regulation Guide to Licensing* • *Procedure: Prescribed premises works approvals and licences* for more information to assist in understanding DWER's regulatory regime for prescribed premises.	☒ Works approval ☐ Licence Existing registration number(s): [ ] Existing works approval number(s): [ ] ☐ Renewal Existing licence number: [ ] ☐ Amendment Number of the existing licence or works approval to be amended: [ ] ☐ Registration (works approval already obtained) Existing works approval number(s): [ ]

1.2	**For a works approval amendment or licence amendment, are there less than 90 business days until the expiry of the existing works approval or licence?** Only active instruments can be amended. Applications to amend a works approval or licence must be made 90 business days or more prior to the existing works approval or licence expiring to ensure there is adequate time to assess the amendment.	Yes ☐

1.3	**This application is for the following categories of prescribed premises:** *(specify all prescribed premises category numbers)*	[61] [61A] [62]	
		☒	All activities that meet the definition of a prescribed premises as set out in Schedule 1 of the EP Regulations have been specified above (tick, if yes).

Completion Matrix
The matrix below explains what sections are required to be completed for different types of applications.

Application form section	New application / registration	Renewal	Amendment
Part 1: Application type	•	•	•
Part 2: Applicant details	•	•	•
Part 3: Premises details	•	•	Δ
Part 4: Proposed activities	•	•	•
Part 5: Index of Biodiversity Surveys for Assessment and Index of Marine Surveys for Assessment	If required.	If required.	If required.
Part 6: Other DWER approvals	•	•	•
Part 7: Other approvals and consultation	•	•	•
Part 8: Applicant history	•	•	Δ
Part 9: Emissions, discharges, and waste	•	•	Δ
Part 10: Siting and location	•	•	Δ
Part 11: Submission of any other relevant information	•	•	If required.
Part 12: Category checklist(s)	•	•	•
Part 13: Proposed fee calculation	•	•	•
Part 14: Commercially sensitive or confidential information	•	•	•
Part 15: Submission of application	•	•	•
Part 16: Declaration and signature	•	•	•
Attachment 1A: Proof of occupier status	•	•	N/A
Attachment 1B: ASIC company extract	•	•	N/A
Attachment 1C: Authorisation to act as a representative of the occupier	•	•	•
Attachment 2: Premises map/s	•	•	Δ
Attachment 3A: Environmental commissioning plan	If required.	N/A	If required
Attachment 3B: Proposed activities	•	•	Δ
Attachment 3C: Map of area proposed to be cleared (only applicable if clearing is proposed)	•	•	•
Attachment 3D: Additional information for clearing assessment	If required.	If required.	If required.
Attachment 4: Marine surveys (only applicable if marine surveys included in application)	•	•	•
Attachment 5: Other approvals and consultation documentation	•	•	Δ
Attachment 6A: Emissions and discharges	If required.	If required.	If required.
Attachment 6B: Waste acceptance	If required.	If required.	If required.
Attachment 7: Siting and location	•	•	Δ
Attachment 8: Additional information submitted	If required.	If required.	If required.
Attachment 9: Category-specific checklist(s)	•	If required.	If required.
Attachment 10: Proposed fee calculation	•	•	•
Attachment 11: Request for exemption from publication	If required.	If required.	If required.

Key:

•	Must be completed / submitted.
Δ	To the extent changed / required in relation to the amendment.
N/A	Not required with application, but may be requested subsequently depending on DWER records.
"If required"	Sections for applicants to determine.

Part 2: Applicant details

INSTRUCTIONS:

- **The applicant (the occupier of the premises) must be an individual(s), a company, body corporate, or public authority, but not a partnership, trust, or joint-venture name. Applications made by or on behalf of business names or unincorporated associations will not be accepted.**
- **If applying as an individual, your full legal name must be provided.**
- **If applying as a company, body corporate, or public authority, the full legal entity name must be inserted.**
- **Australian Company Number's (ACN) must be provided for all companies or body corporates.**
- **DWER prefers to send all correspondence electronically via email. We request that you consent to receiving all correspondence relating to instruments and notices under Part V of the EP Act (Part V documents) electronically via email, by indicating your consent in Section 2.3.**
- **Companies or body corporates making an application must nominate an authorised representative from within their organisation. Proof of authorisation must be submitted with the application (see Section 2.10). If you are applying as an individual, you are the representative.**
- **Details of a contact person must be provided for DWER enquiries in relation to your application. This contact person can be a consultant if authorised to represent the applicant. Written evidence of this authorisation must be provided.**
- **Details of the occupier of the premises must be provided. One of the options must be selected and if you have been asked to specify, please provide details. For example, if 'lease holder' has been selected, please specify the type of lease (for example, pastoral lease, mining lease, or general lease) and provide a copy of the lease document(s). Note that contracts for sale of land will not be sufficient evidence of occupancy status.**

2.1	**Applicant name/s (full legal name/s):** The proposed holder of the works approval, licence or registration.	HazRad Australia Pty Ltd			
	ACN (if applicable):	626 763 782			
2.2	**Trading as (if applicable):**				
2.3	**Authorised representative details:** The person authorised to receive correspondence and Part V documents on behalf of the applicant under the EP Act. Where 'yes' is selected, all correspondence will be sent to you via email, to the email address provided in this section. Where 'no' has been selected, Part V documents will be posted to you in hard copy to the postal / business address specified in Section 2.4, below. Other general correspondence may still be sent to you via email.	Name	[redacted]		
		Position			
		Telephone			
		Email			
		I consent to all written correspondence between myself (the applicant) and DWER, regarding the subject of this application, being exclusively via email, using the email address I have provided above.		**Yes** ☒	**No** ☐
2.4	**Registered office address, as registered with the Australian Securities and Investments Commission (ASIC):** This must be a physical address to which a Part V document may be delivered.	34 Cocos Drive, Bibra Lake, WA 6163			
2.5	**Postal address for all other correspondence:** If different from Section 2.4.	PO Box 1049, Bibra Lake DC, WA 6965			

Part 2: Applicant details				
2.6	**Contact person details for DWER enquiries relating to the application (if different from the authorised representative):** For example, could be a consultant or a site-based employee.	Name	Same as authorised representative	
		Position		
		Organisation		
		Address		
		Telephone		
		Email		
2.7	**Occupier status:** Occupier is defined in s.3 of the EP Act and includes a person in occupation or control of the premises, or occupying a different part of the premises whether or not that person is the owner. Note: if a lease holder, the applicant must be the holder of an executed lease, not just an agreement to lease.	Registered proprietor on certificate of title.		☐
		Lease holder (please specify, including date of expiry of lease).		☒
		Leasor – Hope Valley Wood Waste Pty Ltd until 30 June 2027		
		Public authority that has care, control, or management of the land.		☐
		Other evidence of legal occupation or control (please specify – for example, joint venture operating entity, contract, letter of operational control, or other legal document or evidence of legal occupation).		☐

Attachments			N/A	Yes
2.8	**Attachment 1A: Proof of occupier status**	Copies of certificate of title, lease, or other instruments evidencing proof of occupier status, including the expiry date or confirmation that there is no expiry date, have been provided and labelled as Attachment 1A.	☐	☒
2.9	**Attachment 1B: ASIC company extract**	A current company information extract (not the company information summary) purchased from the ASIC website(s) for all new applications / registrations has been provided and labelled as Attachment 1B.	☐	☒
2.10	**Attachment 1C: Authorisation to act as representative of the occupier**	A copy of the documentation authorising the applicant to act on the occupier's behalf as their authorised agent/representative has been provided and labelled as Attachment 1C.	☒	☐

Part 3: Premises details		
3.1	**Premises description (whole or part to be specified):** Include the land description (volume and folio number, lot, or location number/s); Crown lease or reserve number; pastoral lease number; or mining tenement number (as appropriate), of all properties, as shown on title details registered with Landgate.	Eastern third of Lot 4, Plan 18018; Volume 117; Folio 833
	Premises street address Include the suburb.	13 Musson Road, Wattleup WA 6166
	Premises name (if applicable):	HazRad Australia Pty Ltd
3.2	**Local Government Authority area:** City, Town, or Shire.	City of Cockburn
3.3	**GPS (latitude and longitude) coordinates:** GPS coordinates determined using the GDA 2020 (Geographic latitude / longitude) coordinate system and datum must be provided for all points around the proposed premises boundary, where the entirety of the cadastre (land parcel) or mining tenements are not used as the premises boundary.	Refer to Attachment 2A

Attachments			N/A	Yes
3.4	**Attachment 2: Premises map(s)**	You must provide as an attachment to this application form, labelled Attachment 2, either: 1. an aerial photograph, map, and site plan of sufficient scale showing the proposed prescribed premises boundary *or* 2. where available, a map of the proposed premises boundary and site plan as an ESRI shapefile (accepted file types include .dbf, .shp, .prj, and .shx) with the following properties (provided on a suitable portable digital storage device, if submitting application in hard copy form): • Geometry type: Polygon Shape • Coordinate system: GDA 2020 (Geographic latitude / longitude) • Datum: GDA 2020 (Geocentric Datum of Australia 2020). You must also provide a map or maps of the prescribed premises, clearly identifying and labelling: • layout of key infrastructure and buildings, clearly labelled; • the premises boundary (where the premises boundary does not align with the entirety of the cadastral boundary, identify the Lot Number for which the premises is part of); • emission and discharge points (with precise GPS coordinates where available); • monitoring points (with precise GPS coordinates where available); • sensitive receptors and land uses • all areas proposed to be cleared (if applicable). Maps must contain a north arrow, clearly marking the area in which the activities are carried out. The map or maps must be of reasonable clarity and have a visible scale.	☐	☒

Part 4: Proposed activities

INSTRUCTIONS:

- You must provide a description and the scope, size and scale of all prescribed activities of Schedule 1 to the EP Regulations including the maximum production or design capacity of each prescribed activity.
- If applying for a works approval or licence amendment involving the construction of new infrastructure, you must provide information on infrastructure to be constructed and how long construction is expected to take. You must confirm if commissioning is to occur and how long it will take.
- If applying for a works approval or licence amendment *not* involving the construction of new infrastructure, provide details of the proposed amendment.
- You must identify all emission sources on the premises map/s.
- You must also provide information on activities which directly relate to the prescribed premises category which have, or are likely to result in, an emission or discharge.
- If clearing activities are proposed provide a description and details. If a relevant exemption under Schedule 6 of the EP Act or r.5 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (WA) (Clearing Regulations) may apply, provide details.
- Note that in some cases, DWER may require that the clearing components of a works approval or licence (or amendment) application be submitted separately through the clearing permit application process. Refer to the *Procedure: Prescribed premises works approvals and licences* for further guidance.
- Please note that the requested information is critical to DWER's understanding of the proposed activities. The more accurate, specific, and complete the information provided in the application, the less uncertainty that DWER may identify in the application, therefore facilitating completion of the assessment in a more efficient and timely manner.

4.1 **Prescribed premises infrastructure and equipment**

In Table 4.1 (below), provide a list of all items of infrastructure and equipment within the boundary of the prescribed premises relevant to this application, and include the following details for each:

- **relevant categories (if known)** – the categories of prescribed premises (as listed under Schedule 1 of the EP Regulations) that relate to that infrastructure or equipment;
- **site plan reference** – the location of that infrastructure or equipment (with reference to the site plan map or maps provided above in Section 3.4 and labelled as Attachment 2 – e.g. use GPS coordinates or a clear description such as *"labelled as [label on premises map] on Map A"*);
- **is it critical containment infrastructure (CCI)?** – indicate if the identified infrastructure or equipment would be categorised as CCI. Refer to the *Guideline: Industry Regulation Guide to Licensing* for further information on CCI; and
- **is environmental commissioning required?** – indicate if environmental commissioning is intended to be undertaken for that item of infrastructure or equipment. Refer to the *Guideline: Industry Regulation Guide to Licensing* for further information on environmental commissioning.

Add additional rows to Table 4.1 (below) as required.

Table 4.1: Infrastructure and equipment

	Infrastructure and equipment	Relevant categories (if known)	Site plan reference (see Attachment 2B)	CCI? (mark if yes)	Environmental commissioning? (mark if yes)
1.	Permit / gatehouse office		G-J:10-11	☐	☐
2.	Packaged goods unloading area	61,61A, 62	E-H:8-10	☒	☐
3.	Dangerous Goods Container 1	61,61A, 62	E-H:8-10	☒	☐
4.	Dangerous Goods Container 2	61,61A, 62	E-H:8-10	☒	☐
5.	Dangerous Goods Container 3	61,61A, 62	E-H:8-10	☒	☐
6.	Dangerous Goods Container 4	61,61A, 62	E-H:8-10	☒	☐
7.	DG handling area bund	61,61A, 62	E-H:8-10	☒	☐
8.	Paint decanting area	61	J-L:3-11	☒	☐
9.	Paint composting area	61, 61A	J-L:3-11	☒	☐
10.	Product destruction unit area	61, 61A	J-L:1-3	☒	☐
11.	Drum wash area	61	K-L:7-8	☒	☐
12.	Absorption / Adsorption / Fixation mixing wedge pits	61, 61A	H-L:5-7	☒	☐
13.	Absorption / adsorption media storage area	61, 61A	K-L:9-10	☒	☐
14.	Timber shredding		J-L:1-3	☐	☐
15.	Empty container store		F-H:1-3	☐	☐
16.	Maintenance bay		F-H:1-3	☐	☐
17.	Truck and heavy equipment parking bays		B-F:1-3	☐	☐
18.	Asbestos waste bin	61A	A-B:4-5	☒	☐
19.	Ablution block		C-D:10-11	☐	☐
20.	Office		G-J:10-11	☐	☐
21.	Car park		A-B:7-11	☐	☐

4.2	**Detailed description of proposed activities or proposed changes (if an amendment):** You must provide details of proposed activities relevant to this application within the boundary of the prescribed premises, identifying: • scope, size, and scale of the project, including details as to production or design capacity (and/or frequency, if applicable); • key infrastructure and equipment; • description of processes or operations (a process flow chart may be included as an attachment); • emission / discharge points; • locations of waste storage or disposal • activities occurring during construction, environmental commissioning, and operation (if applicable). If assessment and imposition of conditions to allow environmental commissioning to be undertaken are requested, please provide an environmental commissioning plan as Attachment 3A (see 4.11 below). Additional information relating to the proposed activities may be included in Attachment 3B (see 4.12 below).	
	Construction activities (if applicable):	
	Refer to Attachment 3B of this document.	
	Environmental commissioning activities (if applicable): Refer to the *Guideline: Industry Regulation Guide to Licensing* for further guidance.	
	Time limited operations activities (if applicable): Different elements of the premises may require time limited operations to commence at different times. In these circumstances, please specify the infrastructure and/or equipment for which time limited operations authorisation is being applied for. If time limited operations are expected to differ from future licensed operations, specify how and why this would be the case. Refer to the *Guideline: Industry Regulation Guide to Licensing* for further guidance.	
	N/A	
	Operations activities (for a licence):	
	Refer to Attachment 3B of this document.	
4.3	**Estimated operating period of the project / premises (e.g. based on estimated infrastructure life):**	Initial lease period – 5 years to 2029
4.4	**Proposed date(s) for commencement of works (if applicable):**	~June 2025
4.5	**Proposed date(s) for conclusion of works construction (if applicable):** This date should coincide with the submission to DWER of an Environmental Compliance Report(s) and/or a Critical Containment Infrastructure Report(s) as required. Refer to the *Guideline: Industry Regulation Guide to Licensing*.	~December 2025
4.6	**Proposed date(s) for environmental commissioning of works (if applicable):** Refer to the *Guideline: Industry Regulation Guide to Licensing*.	N/A
4.7	**Proposed date/s for commencement of time limited operations under works approval (if applicable):** Refer to the *Guideline: Industry Regulation Guide to Licensing*.	N/A
4.8	**Maximum production or design capacity for each category applied for (based on infrastructure operating 24 hours a day, 7 days a week):**	Cat 61 - 20,000 tonnes per annum Cat 61A - 20,000 tonnes per annum

	Provide figures for all categories listed in Section 1.3. Units of measurement must be the same as the units of measurement associated with the relevant category as identified in Schedule 1 of the EP Regulations.	Cat 62 - 20,000 tonnes per annum
4.9	**Estimated / actual throughput for each category applied for:** Provide figures for all categories listed in Section 1.2. Units of measurement must be the same as the units of measurement associated with the relevant category as identified in Schedule 1 of the EP Regulations.	Cat 61 - 20,000 tonnes per annum Cat 61A - 20,000 tonnes per annum Cat 62 - 20,000 tonnes per annum

Attachments			**N/A**	**Yes**
4.10	**Attachment 2: Premises map**	Emission/discharge points are clearly labelled on the map/s required for Part 3.4 (Attachment 2).	☐	☒
4.11	**Attachment 3A: Environmental commissioning plan**	If applying to construct works or install equipment, and environmental commissioning of the works or equipment is planned, an environmental commissioning plan has been included in Attachment 3A. The environmental commissioning plan is expected to include, at minimum, identification of: • the sequence of commissioning activities to be undertaken, including details on whether they will be done in stages; • a summary of the timeframes associated with the identified sequence of commissioning activities; • the inputs and outputs that will be used in the commissioning process; • the emissions and/or discharges expected to occur during commissioning; • the emissions and/or discharges that will be monitored and/or confirmed to establish or test a steady-state operation (e.g. identifying emissions surrogates, etc.), including a detailed emissions monitoring program for the measurement of those emissions and/or discharges; • the controls (including management actions) that will be put in place to address the expected emissions and/or discharges; • any contingency plans for if emissions exceedances or unplanned emissions and/or discharges occur • how any of the above would differ from standard operations once commissioning is complete. Note that DWER will not include conditions on a granted instrument that authorise environmental commissioning activities where it is not satisfied that the risks associated with environmental commissioning can be adequately addressed.	☒	☐
4.12	**Attachment 3B: Proposed activities**	Additional information relating to the proposed activities has been included in Attachment 3B (if required).	☐	☒

Clearing activities 4.13 to 4.19 are only required if the application includes clearing of native vegetation.		
4.13	**Proposed clearing area (hectares and/or number of individual trees to be removed):**	N/A
4.14	**Details of any relevant exemptions:** Refer to DWER's *A guide to the exemptions and regulations for clearing native vegetation*.	
4.15	**Proposed method of clearing:**	
4.16	**Period within which clearing is proposed to be undertaken:** For example, May 2020 – June 2020.	
4.17	**Purpose of clearing:**	

Clearing activities – Attachments			N/A	Yes
4.18	**Attachment 3C: Map of area proposed to be cleared**	You must provide: an aerial photograph or map of sufficient scale showing the proposed clearing area and prescribed premises boundary *OR* If you have the facilities, a suitable portable digital storage device of the area proposed to be cleared as an ESRI shapefile with the following properties: • Geometry type: Polygon Shape • Coordinate system: GDA 2020 (Geographic latitude / longitude) • Datum: 2020 1994 (Geocentric Datum of Australia 2020).	☒	☐
4.19	**Attachment 3D: Additional information for clearing assessment**	Additional information to assist in the assessment of the clearing proposal may be attached to this application (for example, reports on salinity, fauna or flora studies or other environmental reports conducted for the site).	☒	☐

Part 5: Index of Biodiversity and Marine Surveys for Assessments (IBSA and IMSA)

INSTRUCTIONS:

- **Biodiversity surveys should be submitted through the IBSA Submissions Portal at ibsasubmissions.dwer.wa.gov.au**
- **Biodiversity surveys submitted to support this application must meet the requirements of the EPA's *Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA).***
- **Marine surveys submitted to support this application must meet the requirements of the EPA's Instructions for the preparation of data packages for the Index of Marine Surveys for Assessments (IMSA).**
- **If these requirements are not met, DWER will decline to deal with the application.**

Attachments				N/A	Yes
5.1	**Biodiversity surveys** Please provide the IBSA number(s) (or submission number(s) if IBSA number has not yet been issued) in the space provided. Note that a submission number is not confirmation of acceptance of a biodiversity survey and is not the same as an IBSA number. IBSA numbers are only issued once a survey has been accepted. Once an IBSA number is issued, please notify the department.	All biodiversity surveys submitted with this application meet the requirements of the EPA's *Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA)*.		☒	☐
		Submission number(s)			
		IBSA number(s)			
5.2	**Attachment 4: Marine surveys**	All marine surveys submitted with this application meet the requirements of the EPA's *Instructions for the preparation of data packages for the Index of Marine Surveys for Assessments (IMSA)*.		☒	☐

Part 6: Other DWER approvals

INSTRUCTIONS:

- **If you have applied, or intend to apply, for other approvals within DWER that may be relevant to this application, you must provide relevant details.**
- **If you have referred, or intend to refer, your proposal to the Environmental Protection Authority (EPA), you must provide the requested details.**

Pre-application scoping

6.1	**Have you had any pre-application / pre-referral / scoping meetings with DWER regarding any planned applications?**	☐ No ☒ Yes – provide details: Scoping meeting with DWER on 8/8/2022. DWER representatives - Jarrod Abrahams and Koby Anderson. HazRad representatives – David Reddie, Samuel Jackson and Ashley Sheardown

Environmental impact assessment (Part IV of the EP Act)

6.2	**Have you referred or do you intend to refer the proposal to the EPA?** Section 37B(1) of the EP Act defines a 'significant proposal' as *"a proposal likely, if implemented, to have a significant effect on the environment"*. If DWER considers that the proposal in this application is likely to constitute a 'significant proposal', DWER is required under s.38(5) of the EP Act to refer the proposal to the EPA for assessment under Part IV, if such a referral has not already been made. If a relevant Ministerial Statement already exists, please provide the MS number in the space provided.	☐ Yes (referred) – reference (if known): [ ] ☐ Yes – intend to refer (proposal is a 'significant proposal')☐ Yes – intend to refer (proposal will require a s.45C amendment to the current Ministerial Statement): MS [ ] ☐ No – a valid Ministerial Statement applies: MS [ ] ☒ No – not a 'significant proposal'

Clearing of native vegetation (Part V Division 2 of the EP Act and *Country Area Water Supply Act 1947*)

6.3	**Have you applied or do you intend to apply for a native vegetation clearing permit?** In accordance with the *Guideline: Industry Regulation Guide to Licensing* and *Procedure: Native vegetation clearing permits*, where clearing of native vegetation: • is exempt under Schedule 6 of the EP Act or the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (WA) (refer to *A guide to the exemptions and regulations for clearing native vegetation*) • is being assessed by a relevant authority which would lead to an exemption under Schedule 6 of the EP Act, or • has been referred under s.51DA of the EP Act and a determination made that a clearing permit is not required (refer to the *Guideline: Native vegetation clearing referrals*), the clearing will not be reassessed by DWER or be subject to any additional controls by DWER. If the proposed clearing action is to be assessed in accordance with, or under, an *Environment Protection and Biodiversity Conservation Act* (Cth) (EPBC Act) accredited process, such as the assessment bilateral agreement, the clearing permit application *Form Annex C7 – Assessment bilateral agreement* must be completed and attached to your clearing permit application.	☐ Yes – clearing application reference (if known): CPS [ ] ☐ Yes – a valid EP Act clearing permit already applies: CPS [ ] ☐ No – this application includes clearing (please complete Sections 4.13 to 4.19 above) ☒ No – permit not required (no clearing of native vegetation) ☐ No – permit not required (clearing referral decision): CPS [ ] ☐ No – an exemption applies (explain why):

Part 6: Other DWER approvals

6.4	**Have you applied or do you intend to apply for a *Country Area Water Supply Act 1947* licence?** If a clearing exemption applies in a *Country Area Water Supply Act 1947* (CAWS Act) controlled catchment, or if compensation has previously been paid to retain the subject vegetation, a CAWS Act clearing licence is required. If yes, contact the relevant DWER regional office for a Form 1 *Application for licence*. Map of CAWS Act controlled catchments	☐ Yes – application reference (if known): [ ] ☐ No – a valid licence applies: [ ] ☒ No – licence not required
Water licences and permits (*Rights in Water and Irrigation Act 1914*)		
6.5	**Have you applied, or do you intend to apply for:** **1. a licence or amendment to a licence to take water (surface water or groundwater); or** **2. a licence to construct wells (including bores and soaks); or** **3. a permit or amendment to a permit to interfere with the bed and banks of a watercourse?** For further guidance on water licences and permits under the *Rights in Water and Irrigation Act 1914*, refer to the *Procedure: Water licences and permits*.	☐ Yes –application reference (if known): [ ] ☐ No – a valid licence / permit applies: [ ] ☐ No – an exemption applies (explain why): ☒ No – licence / permit not required

Part 7: Other approvals and consultation

INSTRUCTIONS:

- **Please provide copies of all relevant documentation indicated below, including any conditions, exclusions, or expiry dates.**
- **"Major Project" means:**
  - **A State Development Project, where the lead agency is the Department of Jobs, Tourism, Science and Innovation (including projects to which a State Agreement applies); or**
  - **A Level 2 or 3 proposal, as defined in the Department of Premier and Cabinet's *Lead Agency Framework*.**

		N/A	No	Yes
7.1	**Is the proposal a Major Project?**		☒	☐
7.2	**Is the proposal subject to a State Agreement Act?**		☒	☐
	If yes, specify which Act:			
7.3	**Has the proposal been allocated to a "Lead Agency" (as defined in the *Lead Agency Framework*)?**		☒	☐
	If yes, specify Lead Agency contact details:			
7.4	**Has the proposal been referred and/or assessed under the EPBC Act (Commonwealth)?**	☒	☐	☐
	If yes, please specify referral, assessment and/or approval number:			
7.5	**Has the proposal obtained all relevant planning approvals?**	☒	☐	☐
	If planning approval is necessary but has not been obtained, please provide details indicating why:			
	See City of Cockburn Development Approval - **Attachment 5A**			
	If planning approval is not necessary, please provide details indicating why:			

Part 7: Other approvals and consultation				
7.6	**For renewals or amendment applications, are the relevant planning approvals still valid (that is, not expired)?**	☒	☐	☐
7.7	**Has the proposal obtained all other necessary statutory approvals (not including any other DWER approvals identified in Part 6 of this application)?**	☐	☒	☐
	If no, please provide details of approvals already obtained, outstanding approvals, and expected dates for obtaining these outstanding approvals:			
	Outstanding approval - the required Dangerous Goods Licence will be sought from DMIRS in parallel with the Works Approval Application. Consultant Engaged: ESSR Pty Ltd			
		N/A	**No**	**Yes**
7.8	**Has consultation been undertaken with parties considered to have a direct interest in the proposal (that is, interested parties or persons who are considered to be directly affected by the proposal)?** DWER will give consideration to submissions from interested parties or persons in accordance with the *Guideline: Industry Regulation Guide to Licensing*.	☐	☐	☒
Attachments			**N/A**	**Yes**
7.9	**Attachment 5: Other approvals and consultation documentation** — Refer to Attachment 5A-5D for further information on approvals		☐	☒

Part 8: Applicant history				
Note: • **DWER will undertake an internal due diligence of the applicant's fitness and competency based on DWER's compliance records and the responses to Part 8 of the form.** • **If you wish to provide additional information for DWER to consider in making this assessment, you may provide that information as a separate attachment (see Part 11).**				
		N/A	**No**	**Yes**
8.1	If the applicant is an individual, has the applicant previously held, or do they currently hold, a licence or works approval under Part V of the EP Act?	☒	☐	☐
8.2	If the applicant is a corporation, has any director of that corporation previously held, or do they currently hold, a licence or works approval under Part V of the EP Act?	☐	☐	☒
8.3	If yes to 8.1 or 8.2 above, specify the name of company and/or licence or works approval number:			
	HazRad Australia Pty Ltd - L9228/2019/1			
8.4	If the applicant is an individual, has the applicant ever been convicted, or paid a penalty, for an offence under a provision of the EP Act, its subsidiary legislation, or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☒	☐	☐
8.5	If the applicant is a corporation, has any director of that corporation ever been convicted, or paid a penalty, for an offence under a provision of the EP Act, its subsidiary legislation, or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐
8.6	If the applicant is a corporation, has any person concerned in the management of the corporation, as referred to in s.118 of the EP Act, ever been convicted of, or paid a penalty, for an offence under a provision of the EP Act, its subsidiary legislation, or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐
8.7	If the applicant is a corporation, has any director of that corporation ever been a director of another corporation that has been convicted, or paid a penalty, for an offence under a provision of the EP Act, its subsidiary legislation, or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐

Part 8: Applicant history				
8.8	With regards to the questions posed in 8.4 to 8.7 above, have any legal proceedings been commenced, whether convicted or not, against the applicant for an offence under a provision of the EP Act, its subsidiary legislation, or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐
8.9	Has the applicant had a licence or other authority suspended or revoked due to a breach of conditions or an offence under the EP Act or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐
8.10	If the applicant is a corporation, has any director of that corporation ever had a licence or other authority suspended or revoked due to a breach of conditions or an offence under the EP Act or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐
8.11	If the applicant is a corporation, has any director of that corporation ever been a director of another corporation that has ever had a licence or other authorisation suspended or revoked due to a breach of conditions or an offence under the EP Act or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐
8.12	If yes to any of 8.4 to 8.11 above, you must provide details of any charges, convictions, penalties paid for an offence, and/or licences or other authorisations suspended or revoked:			

Part 9: Emissions, discharges, and waste

INSTRUCTIONS:

- **Please see *Guideline: Risk Assessments* and provide all information relating to emission sources, pathways and receptors relevant to the application.**
- **You must provide details on sources of emissions (for example, kiln stack, baghouses or discharge pipelines) including fugitive emissions (for example, noise, dust or odour), types of emissions (physical, chemical, or biological), and volumes, concentrations and durations of emissions.**
- **The potential for emissions should be considered for all stages of the proposal (where relevant), including during construction, commissioning and operation of the premises.**

		No	Yes
9.1	**Are there potential emissions or discharges arising from the proposed activities?**	☐	☒
	If yes, identify all potential emissions and discharges arising from the proposed activities and complete Table 9.1: Emissions and discharges (below).		

Part 9: Emissions, discharges, and waste

☐ Gaseous and particulate emissions (e.g. emissions from stacks, chimneys or baghouses)

☒ Dust (e.g. from equipment, unsealed roads and/or stockpiles, etc.)

☐ Wastewater discharges (e.g. treated sewage, wash water, or process water discharged to lands or waters)

☒ Waste and leachate (e.g. emissions through seepage, leaks and spills of waste from storage, process and handling areas, etc.)

☒ Noise (e.g. from machinery operations and/or vehicle operations)

☒ Odour (e.g. from wastes accepted at putrescible landfills, storage or processing of waste or other odorous materials, etc.)

☒ Contaminated or potentially contaminated stormwater (e.g. stormwater with the potential to come into contact with chemicals or waste materials, etc.)

☐ Electromagnetic radiation[1]

☐ Other (please specify): [ ]

[1] Note that for electromagnetic radiation, copies/details of other relevant approvals (such as from the Department of Mines, Industry Regulation and Safety or the Radiological Council) must be provided where applicable.

Details of any pollution control equipment or waste treatment system, including any control mechanisms used to ensure proper operation of this equipment, must be included in the proposed controls column of the 'Emissions and discharges table' below. Details of management measures employed to control emissions should also be included. Please provide / attach any relevant documents (e.g. management plans, etc.).

Additional rows may be added as required and/or further information may be included as an attachment (see Section 9.3).

Table 9.1: Emissions and discharges

	Source of emission or discharge	Emission or discharge type	Volume and frequency	Proposed controls (include in Attachment 6A if extensive or complex)	Location
1.	Spading pits	Dust – non-point source	Daily	Water sprays, gentle material mixing strategies, stop work if required	Spading pits – refer to Attachment 2B
2.	Spading pits	Odour – non-point source	Daily	Refer Site Specific Odour Management Plan – Attachment 8H	Spading pits refer – refer to Attachment 2B
3.	Chemical Spills	Loss of containment	unknown	Materials handling, storage and processing will occur in bunded and/or lined spaces within the facility. Such areas will not be exposed to rainfall and storm water flows. Spills will be managed, cleaned up or remediated as soon as they occur. Contaminated waste from cleanup will be processed as part of business as usual for the operation.	Non-specific location on site
4.	Non-point source evaporation of volatiles	Gaseous / vapour	unknown / continuous	Containment / Fixation / stabilisation / neutralisation / evaporation	Non-specific location on site

9.2	Waste-related activities at the premises[2] Answer "yes" or "no" for the following questions and complete Table 9.2 (below).	No	Yes
(a)	Is waste accepted at the premises?	☐	☒

Part 9: Emissions, discharges, and waste				
(b)	Is waste produced on the premises?		☒	☐
(c)	Is waste processed on the premises?		☐	☒
(d)	Is waste stored on the premises?		☐	☒
(e)	Is waste buried on the premises? (Existing Landfill)		☐	☒
(f)	Is waste recycled on the premises?		☐	☒
(g)	Is any of the waste listed in Table 9.2 (below) also considered a 'dangerous good' for the purposes of the Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007?[3]		☐	☒
	Specify, if yes:	Class 6, 8, 9		

[2] Copies / details of any other relevant approvals (e.g. from the Department of Health) must be provided where applicable.

[3] Wastes derived from the storage, handling, and use of dangerous goods may be considered hazardous and may need to be handled with the same precautions. Please refer to the Department of Mines, Industry Regulation and Safety's *Dangerous Goods Safety information sheet* for more information.

Solid waste types must be described with reference to *Landfill Waste Classification and Waste Definitions 1996* (as amended from time to time) and the Environmental Protection (Controlled Waste) Regulations 2004 (Controlled Waste Regulations).

Liquid waste types must be described with reference to the Controlled Waste Regulations.

For further guidance on the definition of waste, refer to *Fact Sheet: Assessing whether material is waste*.

Detail must be provided on storage type (for example, hardstand and containment infrastructure), capacity, likely storage volumes, and containment features (for example, lining and bunding).

Additional rows may be added as required and/or further information may be included as an attachment (see Section 9.4).

Table 9.2 Waste types

Part 9: Emissions, discharges, and waste

#	Waste type	Quantity (tonnes)	Waste activity infrastructure	Monitoring (if applicable)	Location - on Attachment 2B – Site Layout
1.	Acids & alkalis	200	Refer Attachment 2B – Site Layout: DG Storage Containers and the Controlled Waste Treatment Bays.	Visual	(E-H:8-10) and (H-L:5-7)
2.	Coolants, detergents, surfactants, emulsifiers and wetting agents	100	Refer Attachment 2B – Site Layout: Controlled Waste Treatment Bays (H-L:5-7).	Visual	H-L:5-7
3.	Cyanides	100	Refer Attachment 2B – Site Layout: DG Storage Containers and the Controlled Waste Treatment Bays.	Visual	E-H:8-10 / H-L:5-7
4.	Drums/containers contaminated with controlled waste residues	40	Refer Attachment 2B – Site Layout: Bunded Drum/IBC Washer.	Visual	K-L:7-8
5.	Food waste	4000	Refer Attachment 2B – Site Layout: Bunded Non-DG Storage Areas.	Visual	J-L:3-11
6.	Greases, tars & creosotes	100	Refer Attachment 2B – Site Layout: Controlled Waste Treatment Bays (H-L:5-7).	Visual	H-L:5-7
7.	Herbicides & pesticides	80	Refer Attachment 2B – Site Layout: DG Storage Containers and the Controlled Waste Treatment Bays.	Visual	E-H:8-10 / H-L:5-7
8.	Lead contaminated waste	100	Refer Attachment 2B – Site Layout: Controlled Waste Treatment Bays (H-L:5-7).	Visual	H-L:5-7
9.	Metal bearing waste	50	Refer Attachment 2B – Site Layout: Controlled Waste Treatment Bays (H-L:5-7).	Visual	H-L:5-7
10.	Oil sludge & oil contaminated solids, filters and hoses	150	Refer Attachment 2B – Site Layout: Bunded Non-DG Storage Areas.	Visual	J-L:3-11
11.	Oxidisers & reducing agents	30	Refer Attachment 2B – Site Layout: DG Storage Containers and the Controlled Waste Treatment Bays.	Visual	E-H:8-10 / H-L:5-7
12.	Pharmaceutical wastes	10	Refer Attachment 2B – Site Layout: DG Storage Containers.	Visual	E-H:8-10
13.	Solvents, paint & resins (non-flammable only)	550	Refer Attachment 2B – Site Layout: DG Storage Containers.	Visual	E-H:8-10
14.	Asbestos*	1	12 m^3 skip bin and laydown area for pipes in emergency events or facility closures	Visual	A-B:4-5

Attachments			N/A	Yes
9.3	**Attachment 6A: Emissions and discharges** (if required)	If required, further information for Section 9.1 has been included as an attachment labelled Attachment 6A.	☐	☒
9.4	**Attachment 6B: Waste acceptance** (if required)	If required, further information for Section 9.2 has been included as an attachment labelled Attachment 6B.	☒	☐

Part 10: Siting and location

10.1 **Sensitive land uses**

What is/are the distance(s) to the nearest sensitive land use(s)?

A sensitive land use is a residence or other land use which may be affected by an emission or discharge associated with the proposed activities.

Isolated residential dwellings on surrounding market garden land or other type commercial properties, as follows:

- 0.6 km south-southwest
- 0.6km east-southeast
- 0.6km east
- 1 km north-northeast

10.2 **Nearby environmentally sensitive receptors and aspects**

Identify in Table 10.2 (below):

- all instances of environmentally sensitive receptors that are known or suspected to be present within, or within close proximity to, the proposed prescribed premises boundary;
- the nature of the sensitive receptors (e.g. type of Threatened Ecological Community, species or threatened flora or fauna, etc.);
- their actual or approximate known distance and direction from the premises boundary (at the closest point/s); and
- if applicable, what measures have been or will be taken to ensure that sensitive receptors are not adversely impacted by any emissions or discharges from the premises.

Refer to the *Guideline: Environmental siting* for further guidance.

Table 10.2: Nearby environmentally sensitive receptors and aspects

Type / classification	Description	Distance + direction to premises boundary	Proposed controls to prevent or mitigate adverse impacts (if applicable)
Environmentally Sensitive Areas [1]	Mount Brown Lake in the Beeliar Regional Park (R 39752)	0.4 km west	All material handling and processing to occur on bunded, lined or concrete hardstand structures, which will be covered to prevent receipt of incidental rainfall or storm water ingress. Contaminated liquid will be prevented from infiltrating into groundwater.
Environmentally Sensitive Areas [1]	Beeliar Regional Park (R 39752)	0.4 km west	All material handling and processing to occur on bunded, lined or concrete hardstand structures, which will be covered to prevent receipt of incidental rainfall or storm water ingress. Contaminated liquid will be prevented from infiltrating into groundwater.
Threatened Ecological Communities	CR B1b - Callitris preissii (or Melaleuca lanceolata) forests and woodlands of the Swan Coastal Plain (floristic community type 30a as originally described in Gibson et al. 1994)	0.4 km west	The presence of this TEC is presumed only and has not been confirmed. All material handling and processing to occur on bunded, lined or concrete hardstand structures, which will be covered to prevent receipt of incidental rainfall or storm water ingress. Contaminated liquid will be prevented from infiltrating into groundwater.
Threatened and/or priority flora	Threatened or priority species possible with the Beeliar Regional Park, but details are not unknown	0.4 km west	All material handling and processing to occur on bunded, lined or concrete hardstand structures, which will be covered to prevent receipt of incidental rainfall or storm water ingress. Contaminated liquid will be prevented from infiltrating into groundwater.

Part 10: Siting and location

	Aboriginal and other heritage sites [2]			
	Public drinking water source areas [3]			
	Rivers, lakes, oceans, and other bodies of surface water, etc.	Refer to **Attachment 2B**		
	Acid sulfate soils			
	Other			

[1] Environmentally Sensitive Areas are as declared under the *Environmental Protection (Environmentally Sensitive) Notice 2005*. Refer to DWER's website ("Environmentally Sensitive Areas") for further information.

[2] Refer to the Department of Planning, Lands and Heritage website for further information about Aboriginal heritage and other heritage sites.

[3] Refer to *Water Quality Protection Note No 25 'Land use compatibility tables for public drinking water source areas'* for further information.

10.3 Environmental siting context details

Provide further information including details on topography, climate, geology, soil type, hydrology, and hydrogeology at the premises.

Refer to **Attachment 7** and **Attachment 2C**

Attachments			N/A	Yes
10.4	**Attachment 7: Siting and location**	You must provide details and a map describing the siting and location of the premises, including identification of distances to sensitive land uses and/or any specified ecosystems.	☐	☒

Part 11: Submission of any other relevant information

Attachments			No	Yes
11.1	**Attachment 8: Additional information submitted**	Applicants seeking to submit further information may include information labelled Attachment 8. If submitting multiple additional attachments, label them 8A, 8B, etc. Where additional documentation is submitted, please specify the name of documents below.	☐	☒

List title of additional document(s) attached:

- Attachment 8A – Site Management Plan (Aurora 2021)
- Attachment 8B – Thuroona Services Class A Asbestos Licence WUA184
- Attachment 8C – Super 6PJ Paint Depacker Specification
- Attachment 8D – HotWash Drum Cleaner Pressure Unit
- Attachment 8E – Moog Drum Cleaning Attachment Specification
- Attachment 8F – HazRad Wattleup Fire and Emergency Management Plan
- Attachment 8G – HazRad Wattleup Site Management Plan
- Attachment 8H – HazRad Wattleup Odour Management Plan
- Attachment 8I – HazRad Wattleup Timber Shredding Environmental Noise Impact Assessment (Wood, 2022)

Part 12: Category checklist(s)				
Attachments			**N/A**	**Yes**
12.1	**Attachment 9: Category checklist(s)**	DWER has developed category checklists to assist applicants with preparing their application. These checklists are available on DWER's website. The relevant category-specific checklist(s) must be completed and included with the application, labelled as Attachment 9. If attaching multiple category checklists, label them 9A, 9B, etc. Do not select "N/A" unless: • a relevant category checklist is not yet published on DWER's website, or • the application is for an amendment that does not propose changes to the method of operation, or change the inputs, outputs, infrastructure, equipment, emissions, or discharges of / from the premises. Note that that a category checklist(s) may still be required for renewal applications. You will be advised in your renewal notification letter (sent approximately twelve months before the licence expiry date) if you are required to provide the information identified in a category checklist. Where a category checklist is submitted, please specify which checklist(s) in the space below.	☒	☐
	List title(s) of category checklists attached:			

Part 13: Proposed fee calculation

INSTRUCTIONS:

Different fee units apply for different fee components. Fee units may also have different amounts depending on the period in which the calculation is made.

Once DWER has confirmed that the application submitted meets the relevant requirements of the EP Act, you will be issued an invoice with instructions for paying your application fee.

Further information on fees can be found in the *Fact Sheet: Industry Regulation fees*, and on DWER's website.

13.1	Only the relevant fee calculations are to be completed as follows: *[mark the box to indicate section s completed]*	☒ Section 13.3 for works approval applications ☐ Section 13.4 for licence / renewal applications ☐ Section 13.5 for registration applications ☐ Section 13.6 for amendment applications ☐ Section 13.7 for applications requiring clearing of native vegetation
13.2	All information and data used for the calculation of proposed fees has been provided in accordance with Section 13.8.	☒

13.3 Proposed works approval fee

Proposed works approval fee (see Schedule 3 of the EP Regulations)

Fees relate to the cost of the works, including all capital costs (inclusive of GST) associated with the construction and establishment of the works proposed under the works approval application. This includes, for example, costs associated with earth works, hard stands, drainage, plant hire, equipment, processing plant, relocation of equipment and labour hire.

Costs exclude:

- the cost of land
- the cost of buildings to be used for purposes unrelated to the purposes in respect of which the premises are, or will become, prescribed premises
- costs for buildings unrelated to the prescribed premises activity or activities
- consultancy fees relating to the works.

Fee component	Proposed fee
Cost of works [redacted]	[redacted]

13.4 Proposed licence fee (new licences and licence renewals)		
Detailed licence fee calculations		
Part 1 Premises component (see r.5D and Part 1 of Schedule 4 of the EP Regulations) The production or design capacity should be the maximum capacity of the premises. For most categories, the production or design capacity refers to an annual rate. The figure should be based on 24 hour operation for 365 days, unless there is another regulatory approval or technical reason that restricts operation. The premises component fee applies to the category in Part 1, Schedule 4 incurring the higher or highest amount of fee units in accordance with r.5D(2) of the EP Regulations. List all categories (insert additional rows as required). Use only the higher or highest amount of fee units to determine the Part 1 fee component.		
Category	Production or design capacity	Fee units
61	20,000 tonnes PA	45
61A	20,000 tonnes PA	45
62	20,000 tonnes PA	40
Using the higher or highest amount of fee units, Part 1 component subtotal		[redacted]

Part 14: Commercially sensitive or confidential information		
NOTE: **Information submitted as part of this application will be made publicly available. If you wish to submit commercially sensitive or confidential information, please identify the information in Attachment 11, and include a written statement of reasons why you request each item of information be kept confidential.** **Information submitted later in the application process may also be made publicly available at DWER's discretion. For any commercially sensitive or confidential information, please follow the same process as described above.** **DWER will take reasonable steps to protect genuinely confidential or commercially sensitive information. However, please note that DWER cannot commit to redacting all personal information from all supporting documents. You are advised to ensure that all personal information, including signatures, are removed from supporting documents prior to submitting them to the department. Please note that all submitted information may be the subject of an application for release under the *Freedom of Information Act 1992*.**		
All information which you would propose to be exempt from public disclosure has been separately placed in a redacted version of the application form and its supporting documentation. Note that this is in addition to the unredacted version(s) provided to DWER for its assessment. Grounds for claiming exemption in accordance with Schedule 1 to the *Freedom of Information Act 1992* must be specified in **Attachment 11** (located at the end of this form).	**Attached** ☐	**N/A** ☒

Part 15: Submission of application	
INSTRUCTIONS: **Check one of the boxes below to nominate how you will submit your application.** **Files larger than 50MB cannot be received via email by DWER. Files larger than 50MB can be sent via File Transfer. Alternatively, email DWER to make other arrangements.**	
A full, signed, electronic copy of the application form including all attachments has been submitted via email to info@dwer.wa.gov.au; **OR**	☒
A signed, electronic copy of the application form has been submitted via email to info@dwer.wa.gov.au and attachments have been submitted via File Transfer, or electronically by other means as arranged with DWER; **OR**	☐
A full, signed hard copy has been sent to: APPLICATION SUBMISSIONS Department of Water and Environmental Regulation Locked Bag 10 Joondalup DC WA 6919	☐

Part 16: Declaration and signature

General

I / We confirm and acknowledge that:

- the information contained in this application is true and correct;
- I / we have legal authority to sign on behalf of the applicant (where authorisation provided);
- I / we have not altered the requirements and instructions set out in this application form;
- I / we have provided a valid email address in Section 2.3 for receipt of correspondence electronically via email from DWER in relation to this application;
- that successful delivery to my / our server constitutes receipt of correspondence sent electronically via email from DWER in relation to this application; and
- I / we have provided a valid postal and/or business address in Section 2.4 for the service of all Part V documents.
- giving or causing to be given information that to my knowledge is false or misleading is an offence under s.112 of the EP Act and may incur a penalty of up to $100,000.

Publication

I / We confirm and acknowledge:

- this application (including all attachments apart from the sections identified in Attachment 11) is a public document and may be published;
- marine surveys provided in accordance with Part 5 will be published and used, for the purposes of the IMSA project, in accordance with your declaration made in the *Metadata and Licensing Statement*;
- all necessary consents for the publication of information have been obtained from third parties;
- information considered exempt from public disclosure has been noted by redaction of a separately provided copy of the completed application form and its supporting documentation (in accordance with Part 14), with reasons as to why the information should be exempt in accordance with the grounds specified in Schedule 1 to the *Freedom of Information Act 1992* (WA) being provided in Attachment 11;
- subsequent information provided in relation to this application will be a public document and may be published unless written notice has been given to DWER by the applicant, at the time the information is provided, claiming that the information is considered exempt from public disclosure; and
- the decision to not publish information will be at the discretion of the CEO of DWER and will be made consistently with the provisions of the *Freedom of Information Act 1992* (WA).

[redacted] 19/03/2025

Signature Date

[redacted]

Name

[redacted]

Position

[redacted] 19/03/2025

Signature Date

[redacted]

Name

[redacted]

Position

3.0 ATTACHMENT 1A: PROOF OF OCCUPIER STATUS

The current lease agreement for the proposed Facility site is provided on the following page.

Not for retail premises or other premises where the Commercial Tenancy (Retail Shops) Agreement Act 1985 Applies

Particulars of the Lease

This document incorporates The Real Estate Institute of Western Australia (Inc.) 2017, General Terms and Conditions of the Lease contained in the document attached.

Before using this document please read the notes at the front of the Real Estate Institute of Western Australia (Inc.) 2017 General Terms and Conditions of the Lease.

THIS LEASE is made Day: 1st Month: June Year: 2025

For the Premises at: 13 Musson Road, Wattleup

1. **Lessor**:

Full Name: Hope Valley Wood Waste Pty Ltd

Address: PO Box 60 Wattleup, WA 6166

Telephone: Work: Mobile: [redacted]

ACN/ABN: 70 927 823 876 Email: [redacted]

2. **Lessee:**

Full Name:

Address:

Telephone: Work: Mobile:

Email:

Full Name:

Address:

Telephone: Work: Mobile:

Email:

(if a corporation) Name: Hazrad Australia Pty Ltd

ACN/ABN: 626 763 782

Postal Address: 34 Cocos Drive Bibra Lake WA 6163

Address of Registered Office:

Telephone: Work: [redacted] Mobile: [redacted]

Contact Name: [redacted] Email: [redacted]

3. Guarantor:

Full Name:

Address:

Telephone: Work Mobile

Email:

Full Name:

Address:

Telephone Work Mobile

Email:

4. Premises:

*The Land

*That part of the Land and Building situated at and known as

Part of 13 Musson Road Wattleup WA 6166

Which is depicted as crosshatched or coloured on the annexed plan (if any)

*Delete the inapplicable

5. Land:

Lot 4 On Diagram/Deposited/Plan/Strata Plan 018018 and being the whole of the land in Certificate of Title Volume 1177 Folio 833

6. Term:

3 YEARS months/years commencing on the Date of Commencement.

7. Date of Commencement:

1st June 20 25

8. **Further Terms:**

3 years + 3 years + 3 years months/years commencing on 1st June 20 28, 2031,2034

3 years + 3 years + 3 years months/years commencing on 1st June 20 37, 2040, 2043

9. Rent:

From the Date of Commencement until varied the Rent is $ [redacted] per annum, payable by instalments of

$ [redacted] per month in advance on the first day of each month. (Rent is exclusive of GST, see clause 30)

10. Rent review dates:

During the Term:

Method	c	Review Date	1/07/2025	Method	c	Review Date	1/07/2028
Method	c	Review Date	1/07/2026	Method	a	Review Date	1/07/2029
Method	c	Review Date	1/07/2027	Method	c	Review Date	1/07/2030

During the Further Term:

Method	c	Review Date	1/07/2031- 1/07/2032	Method	c	Review Date	1/07/2036 - 1/07/2037
Method	c	Review Date	1/07/2033 - 1/07/2034	Method	c	Review Date	1/07/2038 -1/07/2039
Method	a	Review Date	1/07/2035	Method	a	Review Date	1/07/2040

Insert **A, B, C, D** or **E** for the Method of Rent Review

11. **Method of Rent Review**:

Subject to clause 18 the Rent applicable from and including each Rent Review Date specified in item 10 above is calculated by one of the following methods of rent review:

A Market Rent Review on that Rent Review Date

B CPI Rent on that Rent Review Date

C The Rent applicable immediately before that Rent Review increased by 4% of that Rent

D The greater of a Market Review and a CPI Rent on that Review Date

E

12. **Lessor Chattels**:

The Lessors Chattels included in the Lease are:

atu, fence, power supply, water supply, asphalt hardstand

13. Rate of Interest:

15% per annum calculated on a daily basis.

14. Painting and decorating intervals:

Within three (3) months before the end of each Term and Further Term granted or at earlier Termination

15. Public Liability Insurance

$20 Million unless stated otherwise

16. Nature of Business and Permitted use:

The Permitted Use of the business is:

Waste Management and Dangerous Good Storage, Processing and Transport

17. Outgoings Payable by the Lessee:

		THE LESSOR AGREES TO PAY (Denote with X)	THE LESSEE AGREES TO PAY (Denote with X)
a)	Water Drainage and Sewerage Rates		X
b)	Local Authority Rates including fire services levy		X
c)	Land Tax and MRIT		^
d)	Interest Charges on Outstanding Rates and Taxes		
e)	Water Consumed Beyond Allowance		X
f)	Fire Services		
g)	Cleaning, Including Window and Rubbish Removal		
h)	Grounds Repairs and Maintenance		
i)	Building Repairs and Maintenance of a Non-Structural Nature		
j)	Building Insurance		
k)	Plate Glass Insurance		
l)	Public Liability Insurance (to a minimum of $20 Million)		X
m)	Property Management Fees		
n)	Common Area, Lighting and Power		
o)	Security		
p)	Toilet Requisites		
q)	Hot Water Systems Running and Repairs and Maintenance		
r)	Electricity and Gas and Telephone Services Consumed in the leased Premises		^
s)	Air-Conditioning Running and Repairs and Maintenance		
t)	Escalator & Lift: Running and Repairs and Maintenance		
u)	Strata Company Levy		
v)	Pest Control		
w)			
x)			
y)			

18. Security Bond: $ [redacted]

19. Bank Guarantee amount: $

20. Special Clauses:

[redacted]

ACCEPTANCE

SIGNED BY THE LESSOR OR THE LESSOR's AGENT

(individual)

SIGNED by

Signature

(FULL NAME)

In the presence of:

Signature of Witness

Full name of Witness

Address of Witness

Occupation of Witness

(Corporation)

Hope Valley Wood Waste Pty Ltd

Full Name of Corporation

70 627 823 876

ACN / ABN

EXECUTED BY THE LESSOR PURSUANT)

TO ITS CONSTITUTION AND THE CORPORATIONS ACT)

)

)

)

[redacted]

Sole / Director

[redacted]

Full Name of Director

SIGNED BY THE LESSOR OR THE LESSOR'S AGENT

(individual)

SIGNED by

Signature

(FULL NAME)

In the presence of:

Signature of Witness

Full name of Witness

Address of Witness

Occupation of Witness

(Corporation)

Full Name of Corporation

ACN / ABN

EXECUTED BY THE LESSOR PURSUANT)

TO ITS CONSTITUTION AND THE CORPORATIONS ACT)

)

)

)

Director / Secretary

Full Name of Director / Secretary

ACCEPTANCE

SIGNED BY THE LESSEE

(individual)

SIGNED by

Signature

(FULL NAME)

In the presence of:

Signature of Witness

Full name of Witness

Address of Witness

Occupation of Witness

(Corporation)

Hazrad Australia Pty Ltd

Full Name of Corporation

626 763 782

ACN / ABN

EXECUTED BY THE LESSEE PURSUANT)
TO ITS CONSTITUTION AND THE CORPORATIONS ACT)
)
)
)

[redacted]

Sole / Director

[redacted]

Full Name of Director

SIGNED BY THE LESSEE

(individual)

SIGNED by

Signature

(FULL NAME)

In the presence of:

Signature of Witness

Full name of Witness

Address of Witness

Occupation of Witness

(Corporation)

Full Name of Corporation

ACN / ABN

EXECUTED BY THE LESSEE PURSUANT)
TO ITS CONSTITUTION AND THE CORPORATIONS ACT)
)
)
)

[redacted]

Director / Secretary

[redacted]

Full Name of Director / Secretary

ACCEPTANCE

SIGNED BY THE GUARANTOR

(individual)

SIGNED by

Signature

(FULL NAME)

In the presence of:

Signature of Witness

Full name of Witness

Address of Witness

Occupation of Witness

(Corporation)

n/a

Full name of Corporation

ACN / ABN

EXECUTED BY THE GUARANTOR PURSUANT)
TO ITS CONSTITUTION AND THE CORPORATIONS ACT)
)
)
)

Sole / Director

Full Name of Director

SIGNED BY THE GUARANTOR

(individual)

SIGNED by

Signature

(FULL NAME)

In the presence of:

Signature of Witness

Full name of Witness

Address of Witness

Occupation of Witness

(Corporation)

Full name of Corporation

ACN / ABN

EXECUTED BY THE GUARANTOR PURSUANT)
TO ITS CONSTITUTION AND THE CORPORATIONS ACT)
)
)
)

Director / Secretary

Full Name of Director / Secretary

A true copy of this document has been received by each of the signatories hereto – together with a copy of the Real Estate Institute of Western Australia (Inc.) 2017 General Terms and Conditions of the Lease in the attached document.

4.0 ATTACHMENT 1B: ASIC COMPANY EXTRACT

A current ASIC company extract for HazRad Australia Pty Ltd is provided on the following page.

ASIC
Australian Securities & Investments Commission

Forms Manager
Registered Agents

Company: HAZRAD AUSTRALIA PTY LTD ACN 626 763 782

Company details

Date company registered	12-06-2018
Company next review date	12-06-2025
Company type	Australian Proprietary Company
Company status	Registered
Home unit company	No
Superannuation trustee company	No
Non profit company	No

Registered office

34 COCOS DRIVE , BIBRA LAKE WA 6163

Principal place of business

34 COCOS DRIVE , BIBRA LAKE WA 6163

Officeholders

[redacted]

Company share structure

Share class	Share description	Number issued	Total amount paid	Total amount unpaid
ORD	ORDINARY SHARES	[redacted]		

Members

[redacted]

Share class	Total number held	Fully paid	Beneficially held
ORD	51	Yes	No

[redacted]

Share class	Total number held	Fully paid	Beneficially held
ORD	25	Yes	No

[redacted] [redacted]

Share class	Total number held	Fully paid	Beneficially held
ORD	24	Yes	No

Document history

These are the documents most recently received by ASIC from this organisation.

Received	Number	Form	Description	Status
16-07-2024	7ECV55045	484	CHANGE TO COMPANY DETAILS	Processed - awaiting imaging
16-12-2023	7ECM73280	484	CHANGE TO COMPANY DETAILS	Processed and imaged
06-07-2022	7EBU18003	484	CHANGE TO COMPANY DETAILS	Processed and imaged

5.0 ATTACHMENT 2: PREMISES MAP/S

5.1. Description of Project Infrastructure

This attachment includes the following:

a) A map of the proposed Prescribed Premises boundary (**Attachment 2A**) within the Lot 4 cadastral parcel;
b) A figure (**Attachment 2B**) of the proposed site layout and infrastructure for Stage 1 of the proposed development. The infrastructure referred to in the site layout as Stage 2 (northwest corner), is for future planning and is outside the scope of this application; and
c) A figure (**Attachment 2C**) indicating the separation distances between the proposed Facility and the nearest sensitive receptors.

5.2. Attachment 2A – Site Location

PROPOSED PRESCRIBED PREMISES BOUNDARY		
I.D.	LATITUDE	LONGITUDE
A	-32.169728	115.796411
B	-32.169729	115.797380
C	-32.170460	115.797380
D	-32.170523	115.797306
E	-32.170471	115.796420

Legend

- Proposed Prescribed Premises Boundary
- Proposed Prescribed Premises Boundary Coordinate Location
- Cadastre

0 5 10 20 Metres
Scale: 1:1,000 @ A4

N

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP

- CADASTRE SOURCED LANDGATE
- PHOTOGRAPHY SOURCED NEARMAPS 29.06.22

HAZRAD AUSTRALIA

JOB NO	DATE
13 MUSSON ROAD, WATTLEUP	9/08/2022

HORIZONTAL DATUM AND PROJECTION
GDA 1994 MGA Zone 50

Attachment 2a
Site Location

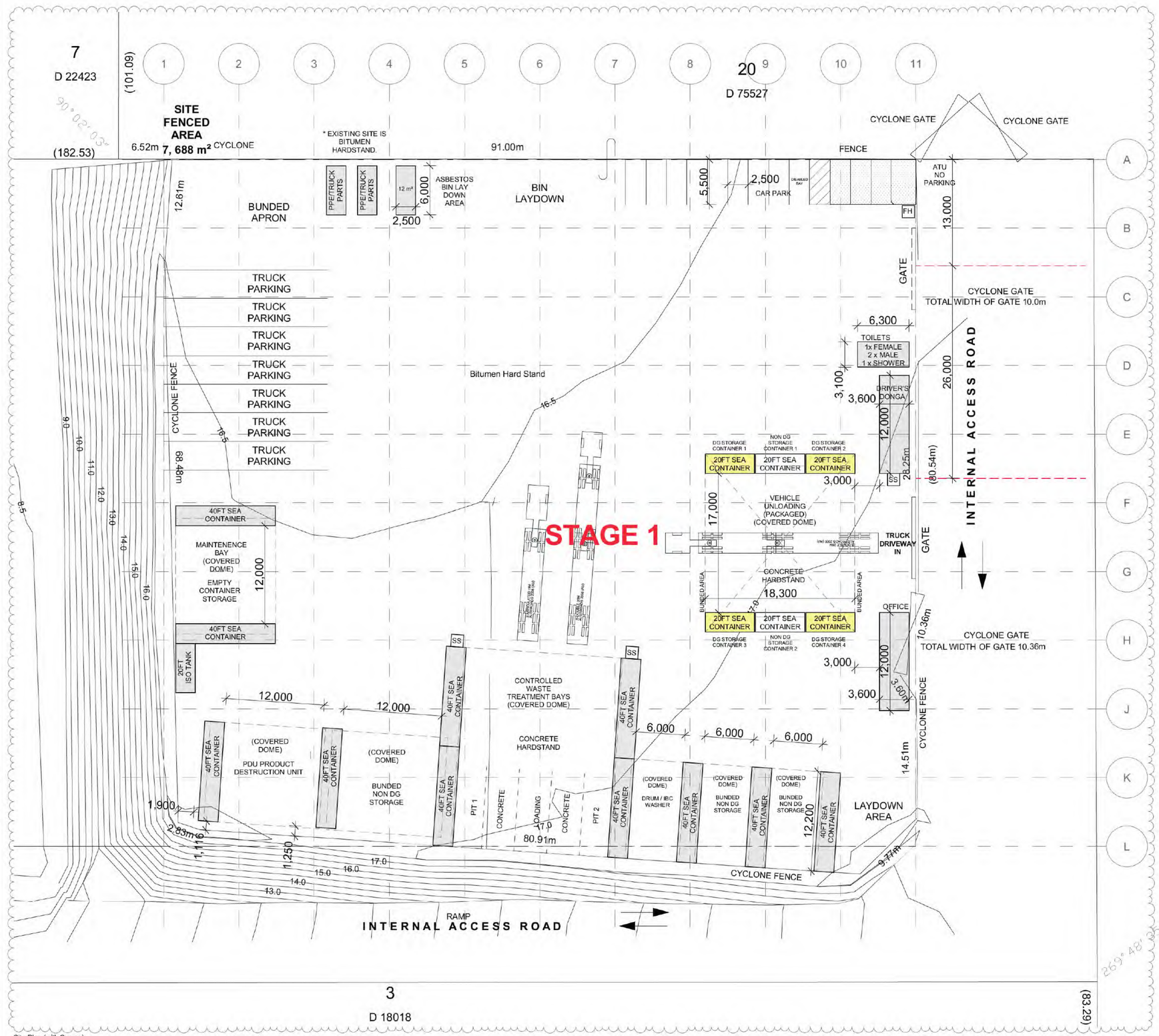
ENVIRONMAPS

Z:\Hazrad\13 Musson Rd, Wattleup, Works Approval\Figures\13Musson_Attachment 2a Site Location_220809.mxd

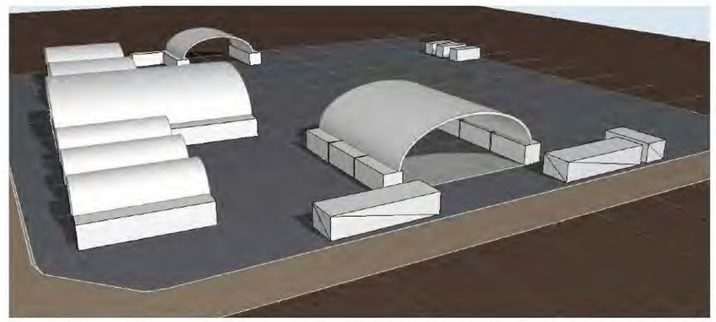
5.3. Attachment 2B – Site Plan

PRELIMINARY

THIS CONCEPT PLAN IS INTENDED FOR FEASIBILITY PURPOSES ONLY. NO PLANNING ADVICE HAS BEEN SOUGHT FROM STATUTORY AUTHORITIES IN THE PREPARATION OF THIS PLAN. ALL SETBACKS, SITE COVERAGE, CAR PARKING NUMBERS, LANDSCAPE AREAS AND THE LIKE ARE SUBJECT TO STATUTORY ADVICE AND APPROVAL. NO ASSURANCE IS GIVEN AS TO THE BOUNDARIES, FEATURES, ATTRIBUTES, FEASIBILITY OR ACCURACY OF ANYTHING SHOWN OR DISCLOSED IN THIS PLAN. ALL EXISTING AND PROPOSED BOUNDARIES, DIMENSIONS, AREAS AND BOUNDARIES ARE APPROXIMATE ONLY AND SUBJECT TO VERIFICATION VIA A DETAILED SITE CONTOUR SURVEY BY A LICENCED SURVEYOR.
ALL AREAS NOTED ARE GFA (GROSS FLOOR AREA) UNLESS NOTED OTHERWISE.



Site Plan (with Survey)
1:250



Perspective View 1

SITE PLANNING PARTICULARS

SITE FENCED AREA 7, 688 m²

NOTES

REFER TO CONCEPT DRAWINGS SUPPLIED BY CONTAINER DOME COMPANY FOR DETAILS ON SIZING, LAYOUT ETC.

LEGEND

FH FIRE HYDRANT

SS SAFETY SHOWER

RevID	Change Name	Date
04	REVISED AS PER CLIENT MARK UPS GRID ADDED	8/08/2023
05	NOTATIONS ADDED	12/08/2023
06	SURVEY ADDED	14/02/2023
07	ASBESTOS BIN ADDED	20/02/2023
08	STAGE 1 ADJUSTED AS PER MARK UP	17/07/2023
09	SKETCH REVISED AS PER MARK UP & CONCEPT DRAWINGS SUPPLIED	25/09/2023
10	SKETCH REVISED AS PER MARK UP, 27.09.23 EMAIL	28/09/2023
11	SKETCH REVISED AS PER MARK UP	25/05/2024
12	SKETCH REVISED AS PER MARK UP	11/09/2024

ARTHOUSE DESIGN (WA)
MOBILE: 0422 226 586
EMAIL: thu@arthousedesignwa.com.au
WEB: www.arthousedesignwa.com.au

PROJECT NAME:
HAZRAD WASTE FACILITY
PROJECT ADDRESS:
13 MUSSON ROAD, WATTLEUP WA 6164

CLIENT:
HAZRAD AUSTRALIA PTY LTD

HAZRAD AUSTRALIA

DRAWING TITLE:
ATTACHMENT 2B - SITE PLAN - STAGE 1

DWG NO.: SK 100

DRAWN: [redacted] DATE: 11/09/2024 JOB NO: #Pln

SCALE: AS NOTED PAGE SIZE: A1

N

5.4. Attachment 2C – Surrounding Sensitive Receptors and Land Uses

Legend

- Proposed Prescribed Premises Boundary
- Railway
- Latitude 32 Industrial Zone
- Conservation Park (R 39752)

Sensitive Receptor

- Residential Property
- Conservation Park (R 39752)
- Banganup Lake
- Indian Ocean

0 250 500 1,000 N

Metres

Scale: 1:30,000 @ A4

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP

- CADASTRE SOURCED LANDGATE
- PHOTOGRAPHY SOURCED NEARMAPS 29.06.22

HAZRAD AUSTRALIA

JOB NO	DATE
13 MUSSON ROAD, WATTLEUP	9/08/2022

HORIZONTAL DATUM AND PROJECTION
GDA 1994 MGA Zone 50

Attachment 2C

Surrounding Sensitive Receptors and Land Uses

ENVIRONMAPS

Z:\Hazrad\13 Musson Rd, Wattleup, Works Approval\Figures\13Musson_Attachment 2c Surrounding Sensitive Receptors and Land Uses_220805.mxd

6.0 ATTACHMENT 3B: PROPOSED ACTIVITIES

6.1. Construction Phase Activities

The general infrastructure required for the facility is already in place and includes:

- Sealed roadways.
- Utilities – water, power, telecommunications.
- Stormwater control systems.
- Security gates and perimeter fence.

The process specific infrastructure to be installed for the proposed facility includes:

- Lighting.
- Bunded and covered vehicle loading and unloading areas.
- Bunded and covered packaged waste receipt, inspection and storage areas.
- Dangerous Goods bunded storage sea containers for larger quantities of dangerous goods — Application to DMIRS for site storage licence will be submitted in parallel with this Work Approval application.
- Ablutions and emergency shower facilities.
- Security cameras to be installed to cover all operational areas.

All infrastructure required is to be installed in compliance with the site diagram and in conformance with the Latitude 32 Development guidelines.

The operational areas of the proposed waste management facility will be constructed predominantly from commercially available sea-container dome-shelter structures placed onto the site's surface. Where liquid wastes are being processed or handled, either free-standing bunds, lined wedge (spading) pits, or bunded hardstand areas will be constructed. Refer to Attachment 2B, which shows the proposed layout and provides an indicative 3D model of the proposed onsite structures.

The construction of the wedge (spading) pits will require limited excavation into the subsurface of the site. As required by the memorial on the title for Lot 4, disturbance of the subsurface must be executed per the site SMP, and with the approval and supervision of the site owner.

Refer to Attachment 2B for details and locations of the proposed onsite bunds, wedge (spading) pits, waste management and waste handling areas.

6.2. Overview of Operations Phase Activities

HazRad proposes to operate the Facility for the acceptance, consolidation, processing, storage and transfer off-site of liquid and bulk packaged controlled wastes including dangerous goods. Activities on site shall include:

- Controlled waste receipt and storage;

- Controlled waste consolidation and storage;
- Chemical treatment and absorption/immobilisation (Wedge Pits);
- Controlled waste transfer to approved recycling, treatment and/or disposal facilities by road transport;
- Dangerous Goods storage;
- Asbestos storage; and
- Product Destruction Unit (PDU)

Infrastructure associated with this facility shall include:

- Packaged waste stores
- Product Destruction Unit
- Vehicle / Truck unloading area
- Vacuum Tankers (Controlled Waste Licenced)
- Waste receipt, inspection and sorting area
- Chemical treatment and absorption/immobilisation pits
- Bin storage area
- Various monitoring equipment
- Emergency response equipment
- DG Container Storage
- Sea Container Storage
- Bulk liquid Storage (ISO's)
- Bin Transport Vehicles
- Heavy Industrial Equipment (Ie Posi Track, Excavator)

HazRad proposes to store liquid-controlled wastes within low permeability bunded areas that allow the recovery of liquid in the event of spillage. For liquid waste stored in packages, the capacity of the spill containment compound is at least 110% of the volume of the largest package.

The bunded areas within the premises will meet the requirements described as follows:

- Be chemically resistant to the substances stored;
- Be designed such that chemical which may react dangerously if they come into contact, are in separate bunds in the same compound or in different compounds;
- Be controlled such that the capacity of the bund is always maintained.

6.3. Forecast Waste Types and Volumes

Table 5 overleaf provides indicative volumes of waste the facility can be expected to receive over the next 3 years. The waste types accepted on site will include the majority categories of controlled waste however the main waste types have been grouped together for the purpose of this table.

Table 2 - Forecast Waste Types and Volumes

Waste Type	Container	2025/26 Tonnes	2026/27 Tonnes	2027/2028 Tonnes
Acids and alkalis	Packaged	200	220	250
Coolants, detergents, surfactants, emulsifiers and wetting agents	Packaged	100	125	150
Cyanides	Packaged	100	125	150
Drums/containers contaminated with controlled waste residues	Packaged	40	60	80
Food waste	Packaged	4000	5000	6000
Greases, tars and creosotes	Packaged	100	125	150
Herbicides and pesticides	Packaged	80	100	120
Lead contaminated Waste	Packaged	100	125	180
Metal bearing wastes	Packaged	50	60	70
Oil sludge and oil contaminated solids, filters and hoses	Packaged	150	200	250
Oxidisers and reducing agents	Packaged	30	40	50
Pharmaceutical wastes	Packaged	10	20	30
Solvents, paint and resins (Non-flammable only)	Packaged	550	700	850
Asbestos*	Packaged	1	1	1

It is anticipated that 75% of packaged waste received will be in load sizes of 10 tonnes or smaller.

*HazRad Australia's sister company, Thuroona Services, is a Class A Asbestos Licence holder. Refer to **Attachment 8B**. From time to time, there is a requirement when attending emergencies outside of business hours, to hold securely wrapped asbestos onsite until it can be accepted by the licenced disposal facility or where there are small volumes collected in daily operations. At all the times the asbestos loads will be securely wrapped and labelled, ready for final disposal.

6.4. Waste Acceptance Procedure

All waste materials will be assessed prior to quotation and collection following documented Health, Safety, Environmental and Quality (HSEQ) procedures and Environmental Protection (Controlled Waste) Regulations 2004. Upon receipt all materials will be inspected and assessed to ensure compliance prior to processing and storage pending off-site transfer for re-use or disposal.

The main stages and control documents in this process include:

- Waste assessment and evaluation form (includes analysis and MSDS as appropriate)
- Daily Job Sheet and Manifest
- Company Quotation and Conditions
- Controlled Waste Tracking Form (DWER Permit)
- Waste or Dangerous Goods Transport Document (if applicable) and Labels
- Waste Acceptance Form
- Site Inspection Checklist

All stages of the assessment, quotation, collection, receival, processing and dispatch are monitored and audited as part of the company's HSEQ management system.

6.5. Description of Operations

6.5.1. Waste Types and Classification

The facility will be licensed to accept all controlled waste categories Indicative waste types and volumes have been provided as part of this submission (See **Attachment 1, Table 9.2**). The facility will accept both packaged and bulk controlled wastes.

6.5.2. Delivery Method

It is anticipated that waste will be delivered by flatbed semi vehicles or curtain-sided tautliner vehicles and vacuum/bulk tanker and the average load size will be less than 20 tonnes.

Each waste load received will be inspected and assessed prior to unloading in the designated unloading area. Once received the waste will then be placed into an inspection and processing area (if packaged) or transferred to a holding tank (if bulk) awaiting a more detailed assessment prior to allocation of storage and off-site dispatch.

6.5.3. Dispatch Method

Packaged waste will be dispatched by site via road transport in loads sizes typically between 10 to 20 tonnes.

Bulk wastes shall be dispatched from site via road transport in loads typically between 10 and 20 tonnes in vacuum or bulk liquid tankers.

All controlled waste dispatched from site shall be via controlled waste licensed vehicles.

6.5.4. Storage of Waste

Once waste received on site is assessed and consolidated/aggregation it shall be allocated a storage bay appropriate to its characteristics. The site will have the following segregated storage areas:

- Combustible Liquids (Hydrocarbons)
- Non-Hazardous Solids and Liquids
- Corrosive Solid and Liquids
- Oxidising Solids and Liquids
- Environmentally Hazardous Solids and Liquids
- Toxic Solid and Liquids

Table 3 below gives an indication of the expected types and volumes of waste to be held on site at any time along with the respective capacities on site for that waste category.

Table 3 - Site Storage Volumes and Locations

Category	Expected Quantity	Container Type	Location	Capacity
Combustible	<5 Tonnes	Packaged	Non-DG Storage area	10 Tonnes
Non Dangerous	<10 Tonnes	Packaged	Non-DG Storage area	20 Tonnes
Corrosive	<30 Tonnes	Packaged	DG Storage Area 1 + 2 + 3	16 + 16 + 16 Tonnes
Environmentally Hazardous	<10 Tonnes	Packaged	DG Storage Area 4	16 Tonnes

All packaged waste will be stored in compliance with the relevant Australian Standards and Codes of Practice for the storage of Dangerous Goods. The expected quantity is the normal operating volume expected to be stored at the facility. Volumes of waste on site will be managed to ensure sufficient capacity is available at all times.

All packaging received on site will either be:

- Reused - in the event any waste is delivered to site in a reusable container all efforts to return the container to the customer or to reuse the container will be made
- Recycled - wherever possible empty containers shall be drained and/or cleaned to be free of residue, baled and recycled.
- Disposed - Containers and packaging that are not reusable or not residue-free will be incorporated into landfill waste for disposal as appropriate.

6.5.5. Waste Processing

The predominant form of processing on-site will be product destruction and liquid recovery, and the absorption of unrecoverable or non-compostable liquid waste.

Once waste is received and accepted on site it will be assessed by technically qualified personnel, and will then be processed according to the following criteria:

- Physical Form
- Hazard – DG Class (ie. reactivity, acidity etc)
- Waste type and contaminants
- Package quality, size and type

Similar waste streams will be assessed, and the compatibility checked to ensure that it is suitable for storage, prior to treatment. Liquids can be transferred via gravity discharge, vacuum or compressor-driven air pumps with appropriately rated hoses, valves and attachments if require onsite.

6.5.6. Treatment Methods – Overview

Hazardous waste is a necessary by-product of many essential industrial processes, but it must be managed carefully in order to protect all HazRad personnel and our environment. During the course of proper management, there are a number of safe and responsible treatment, destruction, and disposal methods available for treatment.

6.5.7. Treatment Method – Stabilisation/Solidification of Waste

Liquid and sludge wastes will be stabilised/solidified to render it spadable for acceptance at landfill facilities as per the Landfill Waste Classification and Waste Definitions 1996 (as amended 2018). These can be broadly grouped into the following mechanisms:

Absorption

Organic material will be used primarily in this process. Liquid is drawn into the organic material principally by capillary action. Cementitious material may be added to enhance this process.

Adsorption

A variety of organic and inorganic materials can be used. This process relies on a combination of hydrogen (strong interactions) and Van der Waal's (weak interactions) bonding between the typically aqueous based waste and the surface structure of the adsorbent material.

Encapsulation

This method of stabilisation (or fixation) significantly reduces the likelihood of contaminants from entering the aqueous environment of the landfill. Various materials may be added to the waste which reduce the mobility/solubility of contaminants.

Lime is the most typical additive which leads to the formation of highly insoluble calcium silicate complexes assimilating the contaminants in the waste. Additionally the calcium also acts as a co-precipitant in the initial stages of the alkaline precipitation part of the reaction.

HazRad Australia's solidification process relies on a combination of all of these mechanisms depending on the characteristics of the liquid/sludge.

Flowchart of Solidification/Stabilisation Process

Our existing waste acceptance procedure will ensure only material which is suitable for the solidification/stabilisation process is processed using this method. All resultant solidified/stabilised waste will meet compliance with the Landfill Waste Classification and Waste Definitions 1996 (as amended 2018). As outlined in the Works Approval application:

1. Evaluation of suitability of waste material to be solidified:
    - All wastes will be checked upon receipt by The Technical Manager or other suitably qualified chemists
    - Assessment will involve evaluations of SDS's, analyses and other information.
    - Assessment will be undertaken by the Technical Manager or other suitably qualified chemists.
    - During the assessment stage, recycling, re-use and other waste treatment options will be prioritised to ensure the most suitable and sustainable option for each waste type/material
    - Waste material containing contaminant concentrations in excess of landfill contaminant threshold acceptance (CT) criteria are assessed for treatment via the stabilisation process.
2. Treatment of liquid/sludge waste by solidification/stabilisation.
3. Analysis of stabilised waste:
    - Internally primarily using pH to determine the stability of the absorbed material and;
    - composite samples retained and tested regularly against landfill CT and leachability criteria
4. Dispatch of stabilised material to the appropriate landfill

6.5.8. Treatment Method – Product Destruction Unit (PDU)

HazRad Australia will accept food and beverage materials that is packaged, and requires secure destruction. Upon receipt, the packaged products are handled and processed in accordance with the following methodology to ensure appropriate waste separation, recycling, and disposal.

Initial Reception and Sorting

Packaged materials are generally received on pallets, that are securely wrapped. Upon arrival, materials will be stripped down to allow for the separation of outer and inner packaging components.

Outer Packaging Separation

Outer packaging—primarily consisting of materials such as cardboard and shrink wrap plastic—is separated at the point of receipt. These materials will be diverted for recycling through standard commingled or dedicated cardboard recycling services.

Inner Packaging and Product Separation

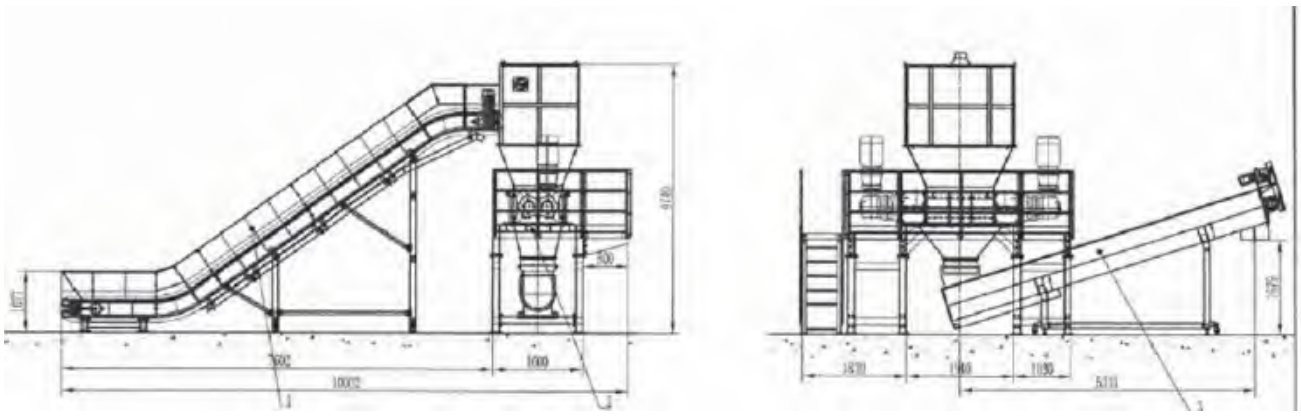
The remaining packaged materials (inner packaging containing food or beverage contents) are processed through a product separation unit, such as a shredder. This process separates the packaging from the contained product.

Separation of Contents

After shredding:

- Liquid Contents: Separated liquids are collected and pumped into an onsite holding tank (24kL ISO Tank). These are then transported under controlled waste conditions offsite for appropriate recovery or composting at a licensed facility.
- Solid Contents: Separated solid food materials are transferred using appropriate receptacles for offsite processing. These materials will be directed to either composting facilities (where suitable) or landfill, depending on the composition and contamination level of the waste, or waste to energy recovery.

Figure 4 – Proposed PDU Setup



6.5.9.Treatment Method – Drum / IBC Cleaning

Equipment used for drum / IBC cleaning AVANT 20/21 HOTWASH **(Attachment 8D)** and various cleaning / vacuum removal attachments **(Attachment 8E).**

The hazardous waste industry use of chemical drums is part of everyday life. HazRad encourages the responsible disposal of all chemical containers so that we all have a sustainable industry long into the future.

Inspection of containers at the receival site, if containing residual product, is necessary to ensure that containers can be safely recycled. There must be no chemical residue on the inside or the outside of the container, including the thread and cap. If there is any chemical residue, these containers are marked for cleaning. After rinsing the chemical container, it should be left to dry with the cap off, which will aid in drying.

The container labels remain on to provide staff with identification of the container being handled. The labels can be removed once a container has passed the cleaning process.

When rinsing a chemical container, the rinsate will be considered and treated the same as the chemical originally stored in the container.

To achieve a suitable level of cleanliness, HazRad Australia will follow these steps:

- Empty the residual contents into the receiving tank and allow the container to drain until emptied fully
- Place the vacuum attachment into the vessel
- Shake, rotate, roll or invert the container vigorously for at least 30 seconds, so that the rinse water reaches all inside surfaces. Use the jetting head to thoroughly rinse the containers until visually clean while removing rinsate under vacuum
- Consolidate rinsate and dispose of appropriately.
- Cleanliness of the vessel will be assessed by a chemist
- Remove original labelling and mark as decontaminated

6.6. Waste Dispatch

Once waste streams have been aggregated into suitable sized loads, the aggregated waste is dispatched to an approved reuse, recycling, treatment or disposal facility within Western Australia, another state in Australia or potentially overseas. Waste loads will typically have a mass of 10 to 20 tonnes, however it can be less depending on the nature of the material.

All controlled wastes greater than 200kg dispatched from the facility are tracked as per the Environmental Protection (Controlled Waste) Regulations, and additionally, any waste sent inter-state will be accompanied by the required interstate waste movement approvals as regulated by the National Environment Protection Measure (NEPM) for inter-state waste movements.

Solid waste or landfill waste disposal is dependent on the waste, licence conditions of the disposal facility, proximity, and the logistics of transportation. Facilities will be appropriately licensed to accept and / or treat the materials sent by HazRad Australia Wattleup. The final disposal facilities for waste processed at the HazRad Wattleup facility may include but not be limited to:

- Permanent isolation – Tellus (Sandy Ridge)
- Class IV material – HazRad Australia(WA Site 1) Cocos Drive Bibra Lake, Red Hill Waste Management Facility, Toodyay Road, Red Hill
- Class II and III - could be City of Cockburn Henderson landfill, Banksia Road landfill, Cleanaway Dardanup, City of Rockingham Millar Road landfill, Rockingham, Suez, North Banister
- Class I Inert – Millar Road landfill, Rockingham, Waste Stream, Brajkovich Landfill Bullsbrook
- HazRad Australia – Bibra Lake
- Cleanaway Henderson Wastewater Treatment Plant (WWTP)
- Western Resource Recovery – Veolia Welshpool

6.7. Facility Operating Hours

The normal operating hours of the facility will be:

- Office: 7.00am to 4.00pm Monday to Friday
- Disposal Facility: 7.00am to 4.00pm Monday to Friday
- Truck Operations: 5am to 5pm Monday to Saturday

The nature of this industry, however, necessitates the ability from time to time to operate on a 24-hour, 7-day-per-week basis. However, this will only be as required.

7.0 ATTACHMENT 5: OTHER APPROVALS AND CONSULTATION DOCUMENTATION

The following additional approvals are required to facilitate this proposal:

a) Development approval (DA) – refer to correspondence from the City of Cockburn in **Attachment 5A** below, confirming alignment between the proposed site activities and the zoning of the land and that no DA is required for this proposal.
b) City of Cockburn permits an aerobic treatment unit (ATU) to treat effluent from the on-site bathroom and toilets. See **Attachment 5B** below. The ATU system approval from the WA Department of Health is provided as **Attachment 5C**.
c) Dangerous goods storage licence – the application for this licence will be made to and assessed by the Department of Mines, Industry Regulation and Safety in parallel with this application.
d) Approval from Site owner for any subsurface intrusions required during the construction phase of the proposal as advised in the **Attachment 5D** below, a Basic Summary of Records for Lot 4.

7.1. Stakeholder and Community Consultation

Due to location and scale of the proposed activity the requirement for community consultation has been assessed and deemed not required for this application.

As a courtesy, immediate neighbours have been notified and consulted of our intention to operate; no objections has been raised regarding the proposal. It is to be noted that the proposed prescribed site is situated within a broader fenced compound in proximity to other DWER licenced facilities. The landowner is supportive of the intended land use and notes that the existing land is situated above an historical landfill that is listed on the contaminated sites database

The City of Cockburn and Development WA has been consulted. The City of Cockburn have confirmed that the current zoning and approved land use for the proposed subject site is aligned with this proposal **(Attachment 5A).**

7.2. Attachment 5A – City of Cockburn Written Planning Advice

From: [redacted]
Sent: Sunday, 6 April 2025 9:43 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Written Planning Advice WPA22/009 - 13 Musson Road WATTLEUP

CAUTION: This email originated from an external sender. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi [redacted]

I can confirm the City has no objections to the minor changes or activities under General – Industrial land use.

No DA required as the changes are only minor.

I'll save this confirmation and the site plan on our system under DA22/0734 and the property.

Kind regards,

[redacted]
Statutory Planning Services | Development Services
[redacted]

Cockburn Nyungar moort Beeliar boodja-k kaadadjiny. Koora, yeyi, benang baalap nidja boodja-k kaaradjiny.
Ngalak kaditj boodjar kep wer kaadidjiny kalyakool yoodaniny, wer koora wer yeyi ngalak Birdiya koota-djinanginy.
The City of Cockburn acknowledges the Nyungar people of Beeliar Boodjar. Long ago, now and in the future they care for Country.
We acknowledge a continuing connection to Land, Waters and Culture and pay our respects to Elders, past and present.

From: [redacted]
Sent: Wednesday, 2 April 2025 11:03 AM
To: [redacted]
Cc: [redacted]
Subject: RE: Written Planning Advice WPA22/009 - 13 Musson Road WATTLEUP

External Email: Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Reference number: DA22/0734 - 3411594

20 July 2023

[redacted]

Hope Valley Wattelup - Industry General (Hazrad) and Extension of Temporary Approvals DA19/0695, DA21/0381, DA21/0580, DA21/0648, DA21/1077, DA22/0242 and DA22/0413

Property address: 13 Musson Road, 950 and 962 Rockingham Road WATTLEUP WA 6166

I refer to your application dated 30/09/2022 for the above and advise that the proposed development has been conditionally approved in accordance with the attached Notice of Approval to Commence Development. This approval is granted pursuant to the *Hope Valley - Wattleup Redevelopment Act 2000* by delegated authority pursuant to section 16 of the *Planning and Development Act 2005*.

Should you be aggrieved by this decision there is a right to apply for a review pursuant to the provisions of Section 29 of the *Hope Valley - Wattleup Redevelopment Act 2000*. Such an application for review must be submitted to the State Administrative Tribunal, 6th Floor, 565 Hay Street Perth in accordance with Part 14 of the *Planning and Development Act 2005*. Contact the State Administrative Tribunal for further details (telephone 9219 3111) or www.sat.justice.wa.gov.au.

Planning approval does not remove the need for any other approvals, licences or permits that may be required.

[redacted]

9 Coleville Crescent, Spearwood WA 6163, PO Box 1215, Bibra Lake DC WA 6965
T: 08 9411 3444 E: customer@cockburn.wa.gov.au
W: cockburn.wa.gov.au ABN 27 471 341 209

REF No: DA22/0734 - 3411594 **Issue Date: 20 July 2023**

HOPE VALLEY-WATTLEUP REDEVELOPMENT ACT 2000

WESTERN AUSTRALIAN PLANNING COMMISSION (HOPE VALLEYWATTLEUP REDEVELOPMENT)

DETERMINATION ON APPLICATION FOR PLANNING APPROVAL

Description of proposed development: Hope Valley Wattelup - Industry General (Hazrad) and Extension of Temporary Approvals DA19/0695, DA21/0381, DA21/0580, DA21/0648, DA21/1077, DA22/0242 and DA22/0413

APPROVAL TO COMMENCE DEVELOPMENT

Owner Name & Address Morton International Pty Ltd
PO Box 60 WATTLEUP WA 6166

LOCATION: 13 Musson Road WATTLEUP WA 6166
950 & 962 Rockingham Road WATTLEUP WA 6166
LOT: 4 PLAN/DIAGRAM: D / 18018
FOLIO NO: 833 VOL NO: 1177
Application Date: 30/09/2022 Received on: 30/09/2022

The application for development approval is approved subject to the following conditions:

CONDITIONS

1. Development may be carried out only in accordance with the approved plans.

2. Planning Approval for Temporary Use and structures is granted pursuant to Part 4 of the Hope Valley Wattleup Redevelopment Act 2000 (as amended) and Clause 11.7 of the Hope Valley Wattleup Masterplan and Clause 2.2 of the Development of Land Policy for a period of five (5) years in accordance with the attached plans.

3. At the expiry of the approval period all use of the land is to cease and within 90 days of the expiry all improvements, structures, plant, stored goods, concrete hardstand and other materials are to be removed from the site and the site reinstated to its previous condition.

4. This approval varies the previous approvals DA19/0695, DA21/0381, DA21/0580, DA21/0648, DA21/1077, DA22/0242 and DA22/0413 to the extent of the works shown on the development plans hereby approved. The conditions of the above

Development Applications remain valid and continue to have effect for the five (5) year duration of the temporary approval.

5. **Prior to the commencement of the use(s) hereby approved**, the parking bays on-site shall be sealed, kerbed, drained, line marked and made available for use in accordance with the approved plans.

6. All stormwater must be contained and disposed of on-site to the satisfaction of the City. All stormwater infrastructure shall be maintained for the duration of the approval.

7. The premises shall be kept in a neat and tidy condition at all times by the owner/occupier to the satisfaction of the City.

8. Industrial liquid wastes, including wash-down wastes, are not permitted to enter any storm water system.

9. There shall be no more than 10 employees at the subject site at any one time, in the location annotated upon the approved plans.

10. All earthworks, cleared land and batters shall be stabilised to prevent sand or dust blowing to the satisfaction of the City.

11. The approval is to comply with the approved Dust Management Plan prepared by *Aurora Environmental* dated 6 August 2021 at all times, to the satisfaction of the City.

12. The approval is to comply with the approved Pest Management Plan prepared by *Expel Pest Control* dated 3 August 2021 at all times, to the satisfaction of the City.

FOOTNOTES

a. This is a Planning Approval only and does not remove the responsibility of the applicant/owner to comply with all relevant building, health and engineering requirements of the City, or with any requirements of the City of Cockburn Town Planning Scheme No. 3 or with the requirements of any external agency.

b. The City's Health Services advises that it will require the cessation of any process, activity or equipment employed on the site if it is causing a dust nuisance, until such time as the process, activity or equipment has been satisfactorily modified.

c. The disposal of industrial liquid waste is to comply with the City of Cockburn(Health) Local Laws 2000 and meet one of the following requirements:

(a) discharge to sewer as approved by the Water Corporation;
(b) discharge to on-site effluent disposal as approved by the Executive Director, Public Health or the Manager, Environmental Health;
(c) collection and disposal in an approved manner at an approved liquid waste disposal site.

Discharge of industrial liquid wastes directly to soak or ground is also not permitted and requires the approval of the Department of Environment and Conservation.

d. The applicant is advised that the *Aboriginal Cultural Heritage Act 2021* applies to activities proposing ground disturbance, unless a specific activity is considered exempt. It should be noted that under the *Aboriginal Cultural Heritage Act 2021*, there is a presumption that Aboriginal Cultural Heritage may be present on site, which may trigger the need for separate approval under the *Aboriginal Cultural Heritage Act 2021*. For more details, please contact the Department of Planning Lands and Heritage (DPLH) directly via aboriginalheritage@dplh.wa.gov.au.

e. With regard to Condition 3 and 4, the landowner/applicant is required to apply for further planning approval upon the application expiry. The proposal will be assessed against the relevant planning framework at the time of approval.

f. The landowner/applicant is advised to contact Department of Water and Environment Regulation and Department of Mines, Industry Regulation and Safety regarding any external approvals, licenses and/or permits which may be required.

g. The applicant/ owner is advised that that this temporary approval is for a limited time only and any future development application/ subdivision will be subject to the statutory framework governing the area at that time including but not limited to Hope Valley Wattleup Redevelopment Act, Hope Valley Wattleup Redevelopment Project Master Plan, Structure Plan, Design Guidelines and Planning Policies.

Note 1: If the development the subject of this approval is not substantially commenced within a period of 2 years, or such other period as specified in

the approval after the date of the decision, the approval shall lapse and be of no further effect.

Note 2: Where an approval has so lapsed, no development shall be carried out without the further approval of the Council having first been sought and obtained.

Note 3: If the applicant or owner is aggrieved by this determination there is a right of review by the State Administrative Tribunal in accordance with the *Planning and Development Act 2005* Part 14. An application must be made within 28 days of determination.

SIGNED: [redacted] DATED: 20 July 2023

.....

[redacted]

for and on behalf of the City of Cockburn.

7.3. Attachment 5B – City of Cockburn ATU Permit

Health (Miscellaneous Provisions) Act 1911
Health (Treatment of Sewage and Disposal of Effluent & Liquid Waste) Regulations 1974

PERMIT TO USE AN APPARATUS

OWNER: Morton International Pty Ltd

ADDRESS: 13 Musson Road WATTLEUP WA 6166

PROPERTY NO: 3411594

APPROVAL NO: HSST/0731

APPROVED APPARATUS: Taylex Concrete ABS 1500 and 2 x 5m Aqwacell 10 leach drains

APPARATUS APPROVED FOR: 10 people.

This apparatus has been inspected and its use is permitted.

Please note that it is an OFFENCE under Section 18 of the Regulations to alter or change an apparatus, unless for the purpose of cleaning or servicing by an appropriately licensed or approved person, or with the written approval of the Department of Health or the local authority.

[redacted]

31 October 2024

The applicant or any person aggrieved by this decision of the City's Health Service, is advised that they may apply to the State Administrative Tribunal, within 28 days of the date of issue of this approval document, for a review of the order or decision. A copy of the appeal shall also be forwarded to the City of Cockburn within the same time period.

Conditions of Approval

The approved secondary treatment system is to be serviced on a 4 monthly basis in accordance with the manufacturer's directions by an authorised service person and a report is to be provided to the City of Cockburn.

Contact details:

City of Cockburn | 9 Coleville Crescent Spearwood | PO BOX 1215, Bibra Lake DC WA 6965 | T: 08 9411 3444

7.4. Attachment 5C – Dept of Health Septic System Approval

Government of **Western Australia**
Department of **Health**

Taylex Advanced Secondary Treatment System

Approval Number: F-AA-51817

CONDITIONS OF APPROVAL

This is to certify that the Taylex

Model Designation:	Concrete ABS 1500 Poly PABS 1500
Manufactured by:	Taylex Industries Pty Ltd 56 Prairie Road Ormeau QLD 4208

is approved by the Chief Health Officer under the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974* for use within Western Australia in accordance with the conditions specified in Schedule 1 & 2.

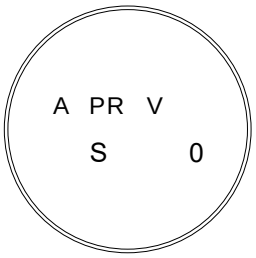
Date of Issue: 14 September 2020

This approval is valid while the Taylex Global Certification No: 40/22 is active or until withdrawn by the Chief Health Officer.

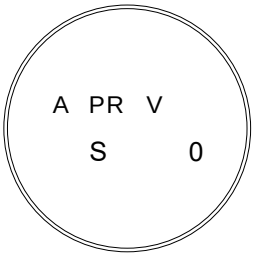
14 September 2020

SCHEDULE 1: GENERAL DESCRIPTION

Specification Summary		Taylex Concrete ABS 1500 & Poly PABS 1500
Maximum daily influent volume		1500 L/day (10EP)
Disinfection method		Chlorine
Average results over the testing period to AS1546.3:2017	BOD	1.5 g/m^3
	TSS	7.6 g/m^3
	Turbidity	31.1 NTU
	E. coli	1.4cfu/100mL
	DO	5.80 mg/L



SCHEDULE 2: CONDITIONS OF APPROVAL



1. General

1.1 No alteration to the design or specification of the Taylex ABS 1500 shall occur without prior approval of the Chief Health Officer.

1.2 Any changes to the design or the construction of the Taylex ABS 1500 shall be submitted for assessment and approval to the Department of Health before being made commercially available in Western Australia.

1.3 Conditions of approval may be varied or withdrawn at the discretion of the Chief Health Officer.

1.4 Each Taylex ABS 1500 shall be permanently and legibly marked on a non-corrosive metal plaque or equivalent, attached to the lid with the following information:
- The brand name of the system;
- The manufacturer's name or registered trademark;
- The month and year of manufacture.

1.5 The manufacturer shall provide the following information to each Local Government where it is intended to install an ATU in their area once Departmental Approval has been obtained:
- Statement of warranty
- Statement of service life
- Quality Assurance Certification
- Installation Manual
- Service Manual
- Owner's Manual
- Service Report Form
- Engineering Drawings
- Detailed Specifications
- Approval documentation from Department of Health WA.

2 Installation and Commissioning

2.1 For each installation, an application for approval to install shall be in the form of an application to install an apparatus as required under the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974)*. Each application for installation shall be made to the Local Government and include full plans and specifications, a completed *Application to Construct or Install an Apparatus for the Treatment of Sewage* form, and pay all fees as prescribed.

2.2 Installation of each Taylex ABS 1500 shall be carried out only by installers authorised by Taylex Industries Pty Ltd.

2.3 The installation of each Taylex ABS 1500 shall comply with Part 2 of the Department of Health *"Code of Practice for the Design, Manufacture, Installation and Operation of ATUs Serving Single Dwellings, November 2001"*.

2.4 The Local Government should require that on completion of the installation of each Taylex ABS 1500, the system is inspected and checked by the manufacturer or the manufacturer's agent. The manufacturer or the agent is to certify that the system has been installed in accordance with Part 2 of the Department of Health *Code of Practice for the Design, Manufacture, Installation and Operation of ATUs Serving Single Dwellings, November 2001* and commissioned in accordance with its design, conditions of Approval and any additional requirements of the Local Government.

2.5 All necessary measures shall be taken by Taylex Industries Pty Ltd (or their authorised agents) as directed by the Chief Health Officer to rectify any Taylex ABS 1500 installation should it be demonstrated to fail in meeting condition (2.4) above.

2.6 The Local Government should require that all electrical work must be carried out by a licensed electrician and in accordance with the relevant provisions of AS/NZS 3000.

2.7 The Taylex ABS 1500 shall be supplied, constructed and installed in accordance with the design as submitted and accredited by the Department of Health WA.

2.8 The tank lid must:

- be a minimum of 100mm above landscaped ground level
- not have any structure erected above it
- not be subject to vehicular traffic and heavy pedestrian traffic.

2.9 The manufacturer shall supply with each Taylex ABS 1500 an owner's manual, which sets out the care, operation, and maintenance and on-going management requirements of the system.

3 Maintenance and Servicing

3.1 The Local Government shall require the owner/occupier of a premise to enter into a 3 monthly service contract with an authorized service person that is authorized to service Taylex ABS 1500.

3.2 The Taylex ABS 1500 shall be serviced at three (3) monthly intervals in accordance with the details set out in the owner's and service manual.

3.3 Each three monthly service shall include a check on all mechanical, electrical and functioning parts of the system including:

- Pumps and air blower
- The control panel and alarm system
- Slime growth on the filter media
- The operation of the chlorine disinfection unit
- The operation of the sludge return system
- Sludge built up in the sedimentation Chamber
- On-site testing for free residual chlorine, pH and dissolved oxygen
- The effluent irrigation area

3.4 The Local Government should require that a service report sheet, in triplicate, is completed for each service. The original shall be given to the owner, the duplicate forwarded to the Local Government and the triplicate retained by the service contractor.

4 On-going Management

4.1 The owner's manual prepared by the manufacturer shall contain a plan for the on-going management of the Taylex ABS 1500. The plan shall include details of:

- the treatment process
- procedures to be followed in the event of a system failure
- emergency contact numbers
- maintenance requirements
- inspection and sampling procedures to be followed as part of the on-going monitoring program developed by the Local Government.

4.2 Effluent from the Taylex ABS 1500 taken in any random grab sample shall comply with the following advance secondary standard:

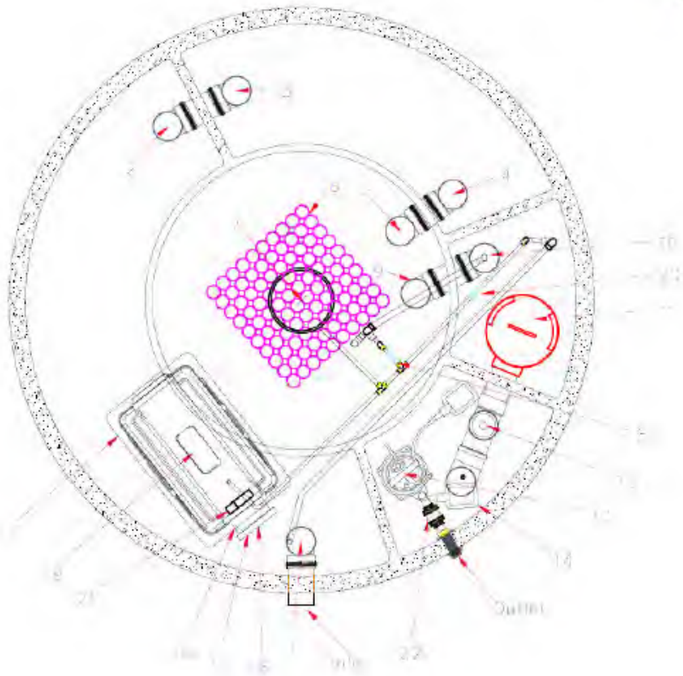
- BOD_5 less than 10 mg/L
- TSS less than 10 mg/L
- *E. coli* less than 10 cfu/100 ml
- Free residual chlorine (greater than 0.5 and less than 2.0 mg/L*)*

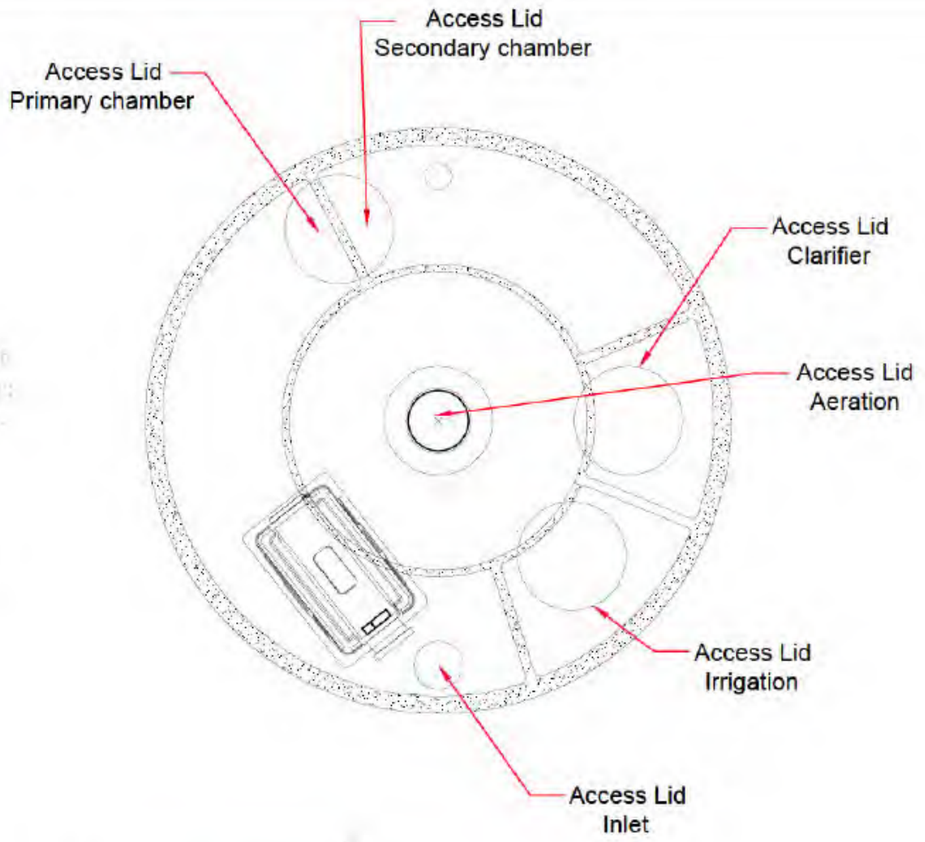
5 Permitted uses

5.1 The disposal method for the system onsite is subject to the approval of the Local Government.

5.2 The Taylex ABS 1500 is not tested for nutrient reduction capability.

[redacted]





TANK DETAILS

TAYLEX CONCRETE ABS 1500

Concrete Tank

A. PRIMARY PRE-TREATMENT CHAMBER	1,684L
B. SECONDARY TREATMENT CHAMBER	842L
C. AERATION CHAMBER	2,071L
D. CLARIFIER	662L
E. CHLORINATION PUMPWELL	621L

WORKING VOLUME 5,880 Litres

TOTAL VOLUME 9,320 Litres

INDEX

1. PVC JUNCTION 100MM X 90
2. PVC JUNCTION 100MM X 90
3. PVC JUNCTION 100MM X 90
4. PVC JUNCTION 100MM X 90
5. PVC JUNCTION 100MM X 90
6. BIO BLOCK
7. DISK DIFFUSER
8. AIR LIFT
9. PVC JUNCTION 100MM X 90
10. PVC JUNCTION 100MM X 90
11. TAYLEX TFG FILTER
12. CHLORINE DISPENSER
13. IRRIGATION PUMP
14. HIGH LEVEL ALARM
15. CONTROL PANEL
16. PANEL BOX
17. BLOWER BOX
18. LIGHT
19. BLOWER
20. SLUDGE RETURN
21. WEATHERPROOF GPO'S
22. NON-RETURN VALVE

Taylex® Tanks
Since 1969
Wastewater & Rainwater Specialists

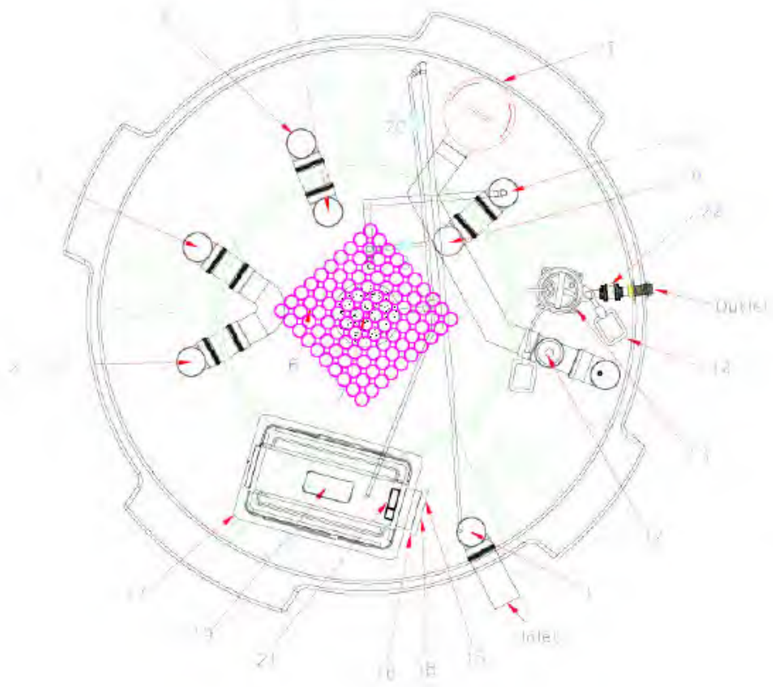
DESIGNED:		STATUS:	DESIGN
DRAWN:		SCALE:	NTS
CHECKED:			
CAD FILE:			

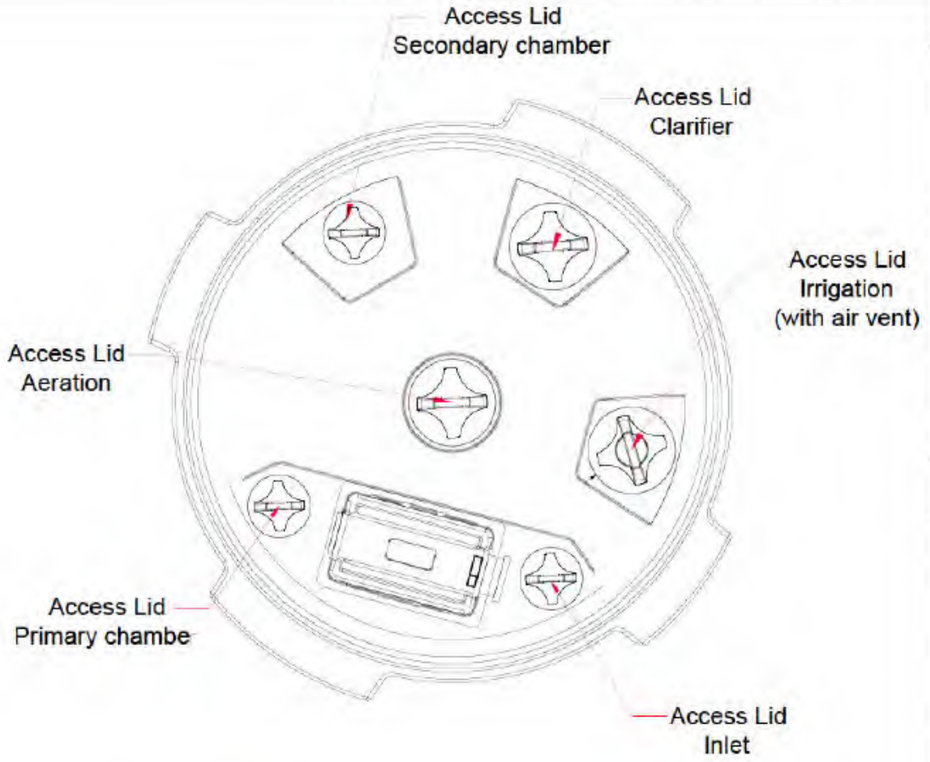
CLIENT: TAYLEX GROUP

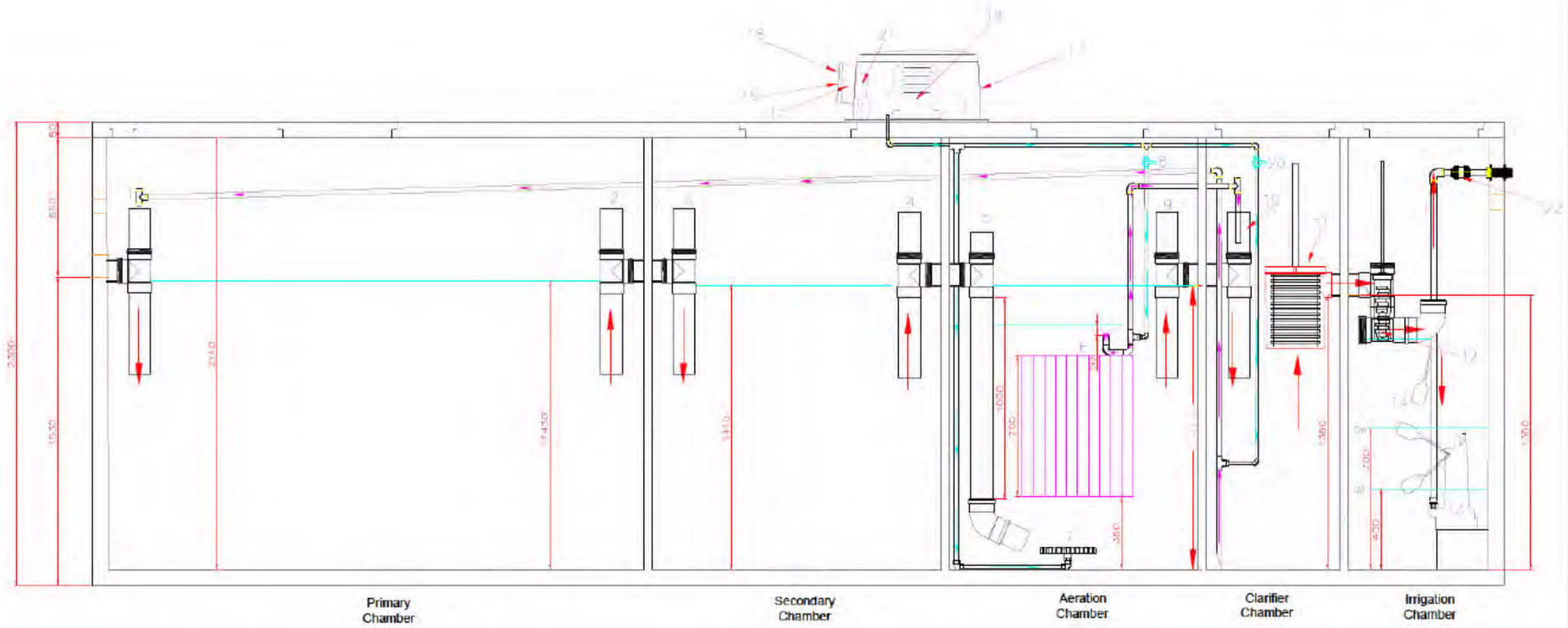
PROJECT: ABS CONCRETE 1500

Taylex PROJ No.:

DRAWING No.: 1 of 1







TANK DETAILS

TAYLEX PABS1500

Poly Tank

A. PRIMAI
B. SECON
C. AERAT
D. CLARIF
E. CHLOF

WORKING VOLUME 6,066 Litres

TOTAL VOLUME 7,108 Litres

INDEX

1. PVC JUNCTION 100MM X 90
2. PVC JUNCTION 100MM X 90
3. PVC JUNCTION 100MM X 90
4. PVC JUNCTION 100MM X 90
5. PVC JUNCTION 100MM X 90
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18. LIGHT
19. BLOW
20. SLUDGE RETURN
21. WEATHERPROOF GPO'S
22. NON-RETURN VALVE

Taylex® Tanks
Since 1969
Wastewater & Rainwater Specialists

DESIGNED:		DATE: 22.4.2020	STATUS:	DESIGN
DRAWN:			SCALE:	NTS
CHECKED:				
CAD FILE:				

CLIENT:
TAYLEX GROUP

PROJECT:
PABS1500

Taylex PROJ No.:

DRAWING No.: 1 of 1

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Taylex® Tanks
Since 1969
Wastewater Specialists

SPECIFICATIONS

CONCRETE
ADVANCED BLOWER SYSTEM 1500
(ABS1500)

TAYLEX® CONCRETE ADVANCED BLOWER SYSTEM 1500

ABS1500

Specifications

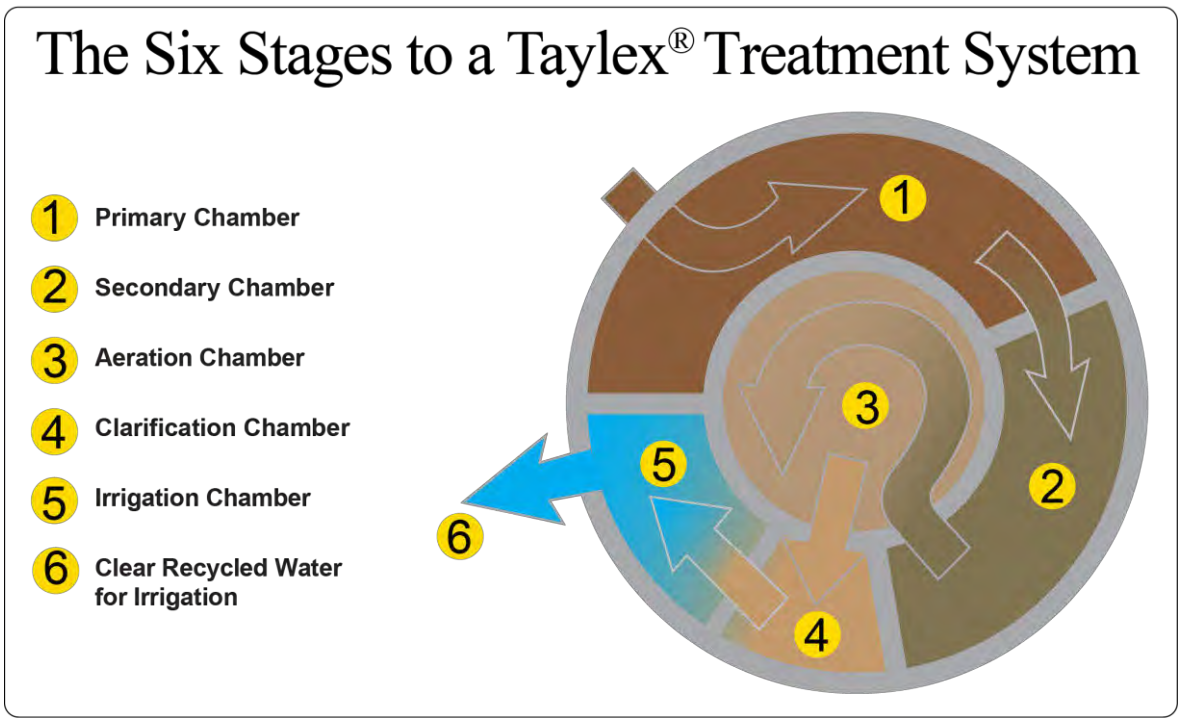
General Description

The Taylex® ABS1500 (Concrete Advanced Blower System 1500) Secondary Treatment System (STS) is designed to treat the wastewater from a residential dwelling up to 1,500 Litres per day, with a daily flow of 150 Litres per person and an average daily BOD^5 70g per person.

The Taylex® ABS1500 STS is contained in one vertical axis type cylindrical precast Concrete collection well with a design capacity of 9,320 Litres and an operating capacity of 5,880 Litres.

Flow path of wastewater:

1. A primary pre-treatment chamber, with a capacity of 1,684 Litres.
2. A secondary pre-treatment chamber, with a capacity of 842 Litres.
3. An aeration chamber, with a capacity of 2,071 Litres. This chamber is fitted with bio block media, 9” disk diffuser and air lift.
4. A sedimentation / clarifier chamber, with a capacity of 662 Litres, containing a Taylex® Disk Filter fitted to the outlet, and a sludge return to the primary.
5. An irrigation chamber, with a capacity of 621 Litres, incorporating a capacity of 300 Litres for chlorine contact of effluent. A chlorine disinfection unit is installed on the inlet to the irrigation chamber. The system is fitted with either a Davey D25 or D42 Irrigation Pump.
6. The automatic irrigation pump transfers the treated effluent to the effluent disposal area / land application area (LAA).



Product Specification Table

Australian Standards Compliance		
Effluent Testing	AS1546.3:2017	
Tank Design and Testing	**In Ground**	AS1546.1:2008
	Above Ground	AS3735:2001
System Model	**ABS1500**	**Concrete**
Treatment Level	Advanced Secondary	

Tank Capacity		
Total Tank Capacity	9320L	
Operating Capacity	5880L	

System Chamber Capacities		
Primary Chamber	1684L	
Secondary Chamber	842L	
Aeration Chamber	2071L	
Clarifier Chamber	662L	
Irrigation Chamber	621L	
Maximum Hydraulic Loading Capacity	1,500 litres per day	

Design Parameters		
Parameter	**Total Per Day**	**Total Per person per day**
Daily flow	1500L	150L
Maximum Organic Loading BOD^5	700g	70g
Total Suspended Solids (TSS)	700g	70g
Total Nitrogen (TN)	150g	15g
Total Phosphorus(TP)	25g	2.5g

Effluent Compliance: AS1546.3:2017		
Biochemical Oxygen Demand (BOD^5)	≤10mg/l	
Total Suspended Solids (TSS)	≤10mg/l	
E. Coli	≤10cfu/100ml	

Temperature		
	Minimum	**Maximum**
Operating Temperature C°	-2°C	45°C

Electricity Consumption		
Kilowatt hours per day (kWh/d)	2.21	
Kilowatt hours per 1000L (kWh/1000L)	1.62	

Servicing and Maintenance	
Servicing Frequency	Every 3 months

COMPONENTS LIST AND REPAIR – REPLACEMENT INSTRUCTIONS

1. Primary Chamber – 100mm inlet Junction
2. Secondary Chamber – 100mm Junction x 2
3. Aeration Chamber – 100mm Junction x 2, BIO Block, Air Lift, Disk Diffuser
4. Clarifier Chamber – 100mm Junction, Taylex® Disk Filter, Sludge Return
5. Irrigation Chamber – 100mm Junction, Chlorine Dispenser, Irrigation Pump, High Level Alarm Float, 100mm Elbow

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Component List

TANK

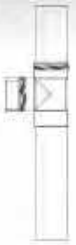
Concrete Tank and Lid
Made from 32mpa concrete with SL 41Mesh

Repair / Replacement Details:
Replacement lids available from Taylex® Industries or your local Service Agents.

Chips and cracks can be repaired using Sika panel patch or mortor.

1) 2) 3) 4) **100mm Sweep Tee With 400mm dropper pipe and 200mm riser**

Repair / Replacement Details:
Replacement tee and pipe can be purchased from a local plumbing store. Cut 100mm pipe at wall and using a 100mm slab repair coupling install new tee.



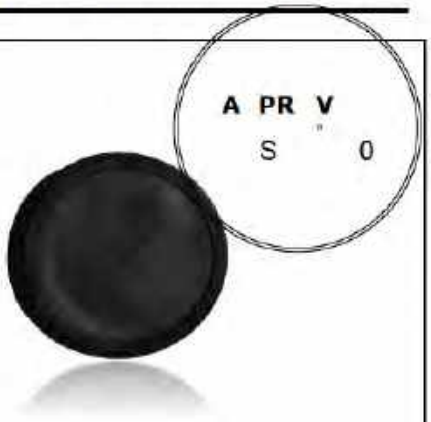
5) **100mm Sweep Tee With 1000mm dropper pipe and 100mm 45° M&F Bend**

Repair / Replacement Details:
Replacement tee and pipe can be purchased from a local plumbing store. Cut 100mm pipe at wall and using a 100mm slab repair coupling install new tee.

6) **BIO Block Media**
Width - 550mm
Length - 550mm
Height - 700mm
Surface Area - 31.65m²

7) **Diffuser**
Material – EPDM
Diameter – 230mm (9inch)

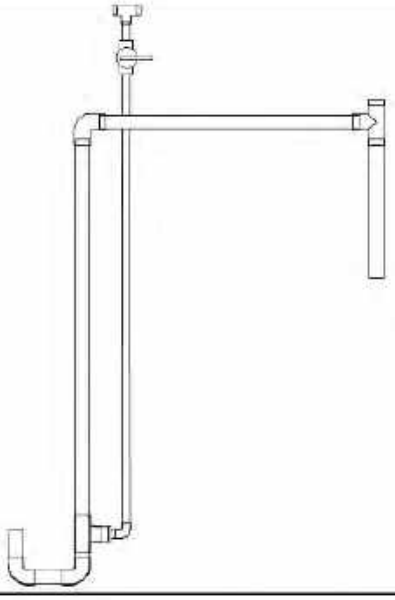
Repair / Replacement Details:
Turn the system off. Replace the diffuser by making a new complete aeration pipe assembly fitted with the Diffuser. Cut the main aeration supply line, place the new diffuser in the system, weighed down with a small concrete block and rotate the diffuser under the biomass. Re fix the new aeration pipe assembly complete with a joining socket. Removing the old Diffuser is not required. Turn the system on. Purchase the complete assembly from Taylex®.



8) **Air Lift / Buffer with Control Valve**

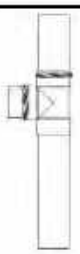
The Air Lift / Buffer has been specifically designed to provide a buffer within the aeration chamber, to allow increased aeration time and to control the transfer of liquid to the Clarification Chamber. The Control Valve must be set to 55 in order for the buffer to function as designed. Using the 'Venturi Principle', air is injected into the base of the assembly to then lift and transfer the liquid. The specific design will stop when the buffer zone reaches the lower level and then restarts as the water level increases. The volume of the liquid transfer varies proportionally to the liquid level in the Aeration Chamber.

Repair / Replacement Details:
Turn the system off. Replace the Air Lift / Buffer assembly by cutting the main line and installing the new assembly with a joining socket. Turn the system on. Purchase the complete assembly from Taylex®.



9)
10) **100mm Sweep Tee With 400mm dropper pipe and 200mm riser**

Repair / Replacement Details:
Replacement tee and pipe can be purchased from a local plumbing store. Cut 100mm pipe at wall and using a 100mm slab repair coupling install new tee.



11) **Taylex TFG Disk Filter**
Material – A.B.S and Nylon
Height – 400mm
Diameter – 300mm

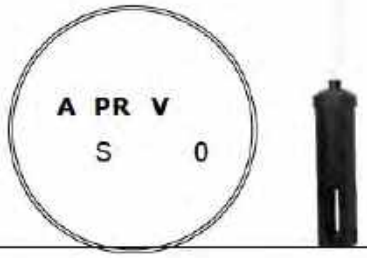
Repair / Replacement Details:
Replace the TFG filter complete by removing the filter from the housing and inserting the new filter. If Filter Rods require replacement, remove the old rods, one by one, inserting the new rod each time so the filter plates remain assembled. To replace the entire housing, cut and remove the old housing in the transfer pipe, insert a slab repair coupling, re glue and fit the new housing. Ensure the glue is set before re-fitting the TFG filter. Purchase the complete assembly from Taylex®.

12) Chlorine Dispenser

Material – HD Polyethylene
Length – 360mm
Diameter – 90mm

The chlorine dispenser is placed in the 100mm Tee located in the irrigation chamber.

Repair / Replacement Details:
Repairing the Chlorine Dispenser is not recommended. If the Dispenser is damaged, replace it with a new unit. Purchase the complete assembly from Taylex®.



13) Irrigation Pump

The irrigation pump is self-controlled via a ball bearing activated float switch. When the according volume is reached in the pump chamber, the ball bearing in the float moves and creates an active connection.
The treated effluent is pumped to the approved dispersal zone, as the chamber reaches minimum volume, the float drops and de-activates the pump. The type and capacity of the pump will be in accordance with the land application requirements.

Repair / Replacement Details:
Turn the system off. Replace the pump by disconnecting the barrel union, be sure not to drop the internal valve assembly. Lift the Pump Assembly out of the tank. Undo the threaded fitting connect to the outlet of the pump. Re apply thread tape and fix the threaded fitting back onto the pump. Return the assembly to the tank and re-connect the barrel union, ensuring the valve is seated correctly. Turn the system on. Purchase the correct pump from Taylex® or a local outlet, ensuring the performance is identical to the pump removed.

DAVEY D25 – 9m Head
Voltage – 220 ~240 IP 68
AMPS – 1.9 Phase 1 50hZ
Max Flow – 200L/min 7m

DAVEY D42A/B3 – 32m Head
Voltage – 220 ~240 IP 68
AMPS – 4.3 Phase 1 50hZ
Max Flow – 130L/min 7m

14) Alarm System High Water

Material – PVC
Length – 20mm
Width - 90mm
Trigger – High Water
Code – 3
Visual – Red L.E.D - 3 Flashes
Audible – Micro Buzzer
Voltage – 12V

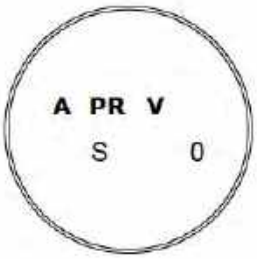
Repair / Replacement Details:
Turn the system off. Replace the float by disconnecting the electrical connection in the terminal block, located in the lower section of the control box. Feed the new float cable into the control box and connect to the terminal block, fixing the screws firmly. Re fix the float to the pipe assembly and loop the lead around the barrel union, to set the float height. Turn the system on. Purchase the float from Taylex®.

15) ECO Control Panel
(240v to 12V Power Supply)
Length – 160mm
Height – 100mm

The Taylex® ECO is a 12V controller powered by the 240v to 12v power supply plug. As the unit is 12V all works including replacements and repairs do not need to be completed by a Licenced Electrician. All service agents can therefore complete all works within the Control Box and on the Taylex® ECO Controllers.

The Taylex® ECO Controller Assembly (complete with Controller, Control Panel Box, 3 x GPO Assembly and Blower Box) is classed as electrical equipment and has been certified to comply with AS/NZS 3820, meeting the Electrical Safety requirements in Australia and New Zealand

Repair / Replacement Details:
Turn the system off. Replace the Control Panel by removing the 4 screws in the control box. Disconnect the Loom plug from the rear of the panel. Connect the loom to the new panel; return the new Control Panel to the control box and re fix the 4 screws. Turn the system on. Purchase the Control Panel from Taylex®.



16) Control Panel Box
Material – HD Polyethylene
Height – 210mm
Length – 190mm
Width – 85mm

The weather proof control box is fixed to the side of the blower box using stainless steel screws. The control panel is fitted to the inside of this box and is connected to the power, high water alarm and pressure switch, via a gland at the back of the box.

Repair / Replacement Details:
Repairing boxes is not recommended. Replacements boxes be purchased from Taylex® or your local service agent.

17) Blower Box
Material – HD Polyethylene
Height – 350mm
Length – 600mm
Width – 400mm

The Blower boxed is fitted to the lid of the ABS using 4 x 30mm anchors.

Repair / Replacement Details:
Repairing boxes is not recommended. Replacement boxes can be purchased from Taylex® or your local service agent.

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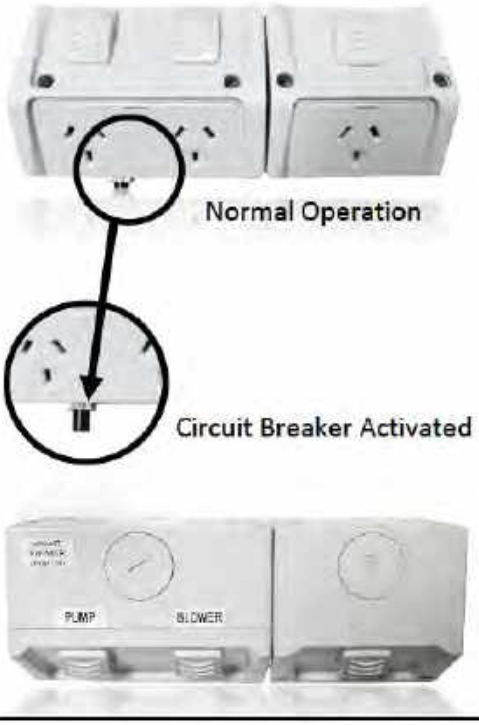
18) Weatherproof GPO's

Single	Double
Height – 85mm	Height – 85mm
Length – 85mm	Length – 115mm
Width – 80mm	Width – 80mm

Mains 10amp power is connected through the 25mm coupling provided on the side of the ABS1500 and pulled up through a conduit into the Single GPO. The 12volt power pack plugs into the single GPO to power the control panel. The blower and irrigation pump are plugged into the double GPO.

The double GPO contains a 5amp circuit breaker, which will activate if either the pump or blower (or both) draw too many amps, indicating a fault with the pump or blower. The breaker can be reset by pushing in the button if activated. The systems normal operation including alarms will continue to function, if the breaker is activated.

Repair / Replacement Details:
Replacing the GPO's can only be completed by a licenced electrician, please refer to the Taylex® Electrical Connection instructions for details. Replacements can be purchased from Taylex® or your local service agent.



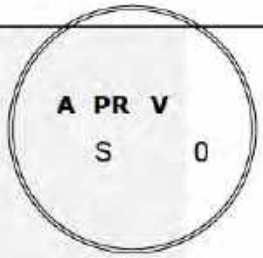
19) L.E.D Light
Height – 30mm
Length – 20mm

The LED visual alarm is constructed within the Eco Panel. This LED Red light will flash when an alarm is present. The number of flashes represent the particular code.

Repair / Replacement Details:
Replacement of the LED lights only is not possible; the complete Control Panel must be replaced. Purchase the Control Panel from Taylex®.

20) Nitto 80L Blower
Material – Alloy / Plastic
Height – 180mm
Width – 200mm
Length – 300mm
Weight – 4.9kg
Noise Rating: 40dB(A)
Capacity – 80L
Back Pressure Range – 10kpa – 20kpa
Motor Power – 86 Watts
Power Source – 240V 50hZ

Repair / Replacement Details:
Purchase replacement Blowers and parts from Taylex®.



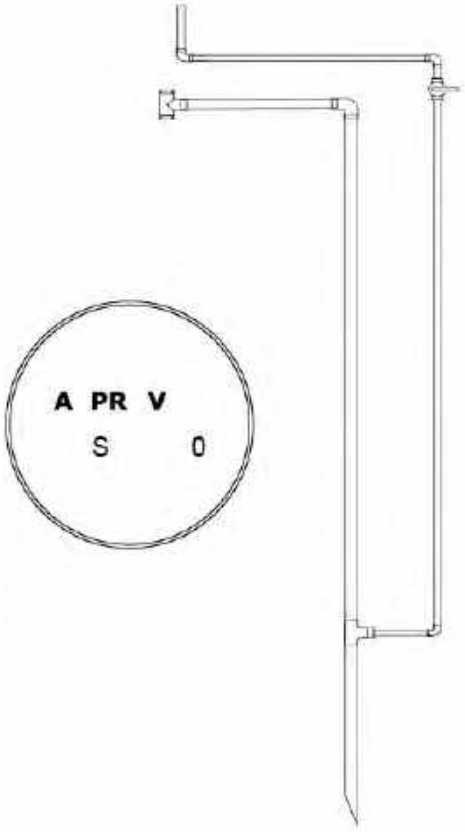
21) Sludge Recirculation System

This is a typical set up for the transfer of fluids using the 'Venturi Principle'. Air is injected toward the base of a vertical open ended PVC conduit. Continuous displacement occurs as the air moves vertically to the liquid, drawing liquid through the bottom of the conduit. The air/liquid mixture reaches a vertical maximum where it then moves through the 90° bend into the primary chamber. The conduit is arranged in the base of the clarifier so that the residual sludge constitutes the main vacuum target.

Sludge Base Removal
Sludge deposit removal is to be scheduled 1 time per 6 years or as determined necessary by a licenced Taylex® Sales Technician or the client or due to mechanical failure.

Servicing
Routine maintenance/servicing of the Taylex® ABS1500 is to be scheduled quarterly or as determined necessary by an approved Taylex® Sales Technician or due to mechanical failure.
Refer to Field Service Report sheet for testing requirements.

Repair / Replacement Details:
Turn the system off. Replace the Sludge Recirculation Assembly by cutting the main line and installing the new assembly with a joining socket. Turn the system on. Purchase the complete assembly from Taylex®.



22) Non- Return Valve
Height – 85mm
Length – 140mm
Width – 85mm

Repair / Replacement Details:
Turn the system off. Replace the Non- Return Valve by cutting the pipe in either side of the valve. Re-join the pipe using sockets and glue the Valve and sockets together. Ensure the glue is set before turning the system back on.

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Taylex® Since 1969
Tanks
Wastewater Specialists

SPECIFICATIONS

POLY
ADVANCED BLOWER SYSTEM 1500
(PABS1500)

TAYLEX® POLY ADVANCED BLOWER SYSTEM 1500

PABS1500

Specifications

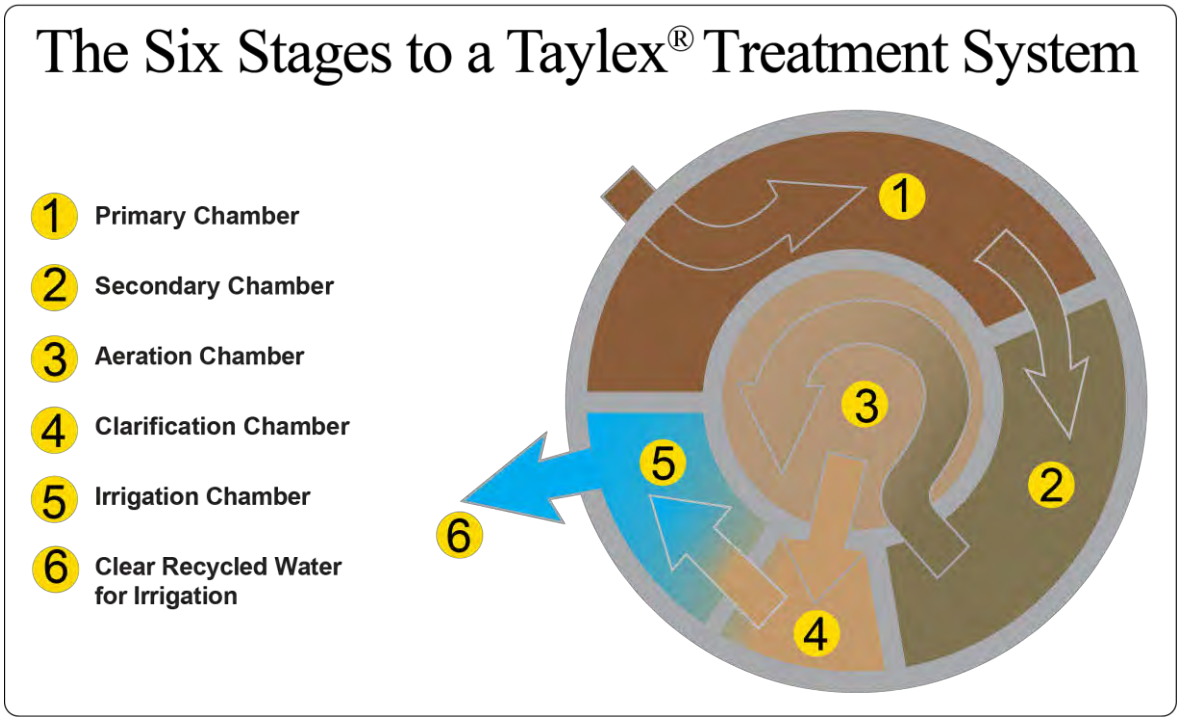
General Description

The Taylex® PABS1500 (Poly Advanced Blower System 1500) Secondary Treatment System (STS) is designed to treat the wastewater from a residential dwelling up to 1,500 Litres per day, with a daily flow of 150 Litres per person and an average daily BOD^5 70g per person.

The Taylex® PABS1500 STS is contained in one vertical axis type cylindrical moulded polyethylene collection well with a design capacity of 7,108 Litres and an operating capacity of 6,066 Litres.

Flow path of wastewater:

1. A primary pre-treatment chamber, with a capacity of 1,708 Litres.
2. A secondary pre-treatment chamber, with a capacity of 911 Litres.
3. An aeration chamber, with a capacity of 2067 Litres at high level. This chamber is fitted with bio block media, 9” disk diffuser and air lift.
4. A sedimentation / clarifier chamber, with a capacity of 685 Litres, containing a Taylex® Disk Filter fitted to the outlet, and a sludge return to the primary.
5. An irrigation chamber, with a capacity of 685 Litres, incorporating a capacity of 300 Litres for chlorine contact of effluent. A chlorine disinfection unit is installed on the inlet to the irrigation chamber. The system is fitted with either a Davey D25 or D42 Irrigation Pump.
6. The automatic irrigation pump transfers the treated effluent to the effluent disposal area / land application area (LAA).



Product Specification Table

Australian Standards Compliance		
Effluent Testing	AS1546.3:2017	
Tank Design and Testing	**In Ground**	AS1546.1:2008
	Above Ground	AS3735:2001
System Model	**PABS1500**	POLY
Treatment Level	Advanced Secondary	

Tank Capacity		
Total Tank Capacity	7108L	
Operating Capacity	6066L	

System Chamber Capacities		
Primary Chamber	1708L	
Secondary Chamber	911L	
Aeration Chamber	2067L	
Clarifier Chamber	685L	
Irrigation Chamber	685L	
Maximum Hydraulic Loading Capacity	1,500 litres per day	

Design Parameters		
Parameter	**Total Per Day**	**Total Per person per day**
Daily flow	1500L	150L
Maximum Organic Loading BOD^5	700g	70g
Total Suspended Solids (TSS)	700g	70g
Total Nitrogen (TN)	150g	15g
Total Phosphorus (TP)	25g	2.5g

Effluent Compliance: AS1546.3:2017		
Biochemical Oxygen Demand (BOD^5)	≤10mg/l	
Total Suspended Solids (TSS)	≤10mg/l	
E. Coli	≤10cfu/100ml	

Temperature		
	Minimum	**Maximum**
Operating Temperature C°	-2°C	45°C

Electricity Consumption		
Kilowatt hours per day (kWh/d)	2.21	
Kilowatt hours per 1000L (kWh/1000L)	1.62	

Servicing and Maintenance	
Servicing Frequency	Every 3 months

COMPONENTS LIST AND REPAIR – REPLACEMENT INSTRUCTIONS

1. Primary Chamber – 100mm inlet Junction
2. Secondary Chamber – 100mm Junction x 2
3. Aeration Chamber – 100mm Junction x 2, BIO Block, Air Lift, Disk Diffuser
4. Clarifier Chamber – 100mm Junction, Taylex® Disk Filter, Sludge Return
5. Irrigation Chamber – 100mm Junction, Chlorine Dispenser, Irrigation Pump, High Level Alarm Float, 100mm Elbow

Component List

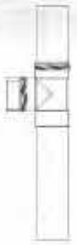
TANK

Polyethylene Tank and Lid
Multi-chambered monolithic poly tank built using a sandwiched, closed cell foam polymer manufacturing method.

Repair / Replacement Details:
Replacement Lids are available from Taylex® Industries or your local service agent. Cracks can be repaired using a poly welder.

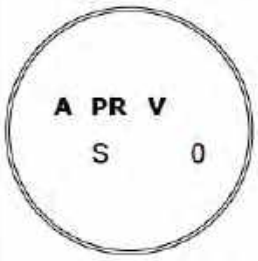
1) 2) 3) 4) 100mm Sweep Tee With 400mm dropper pipe and 200mm riser

Repair / Replacement Details:
Replacement tee and pipe can be purchased from a local plumbing store. Cut 100mm pipe at wall and using a 100mm slab repair coupling install new tee.



5) 100mm Sweep Tee With 1000mm dropper pipe and 100mm 45° M&F Bend

Repair / Replacement Details:
Replacement tee and pipe can be purchased from a local plumbing store. Cut 100mm pipe at wall and using a 100mm slab repair coupling install new tee.



6) BIO Block Media
Width - 550mm
Length - 550mm
Height - 700mm
Surface Area - 31.65m²

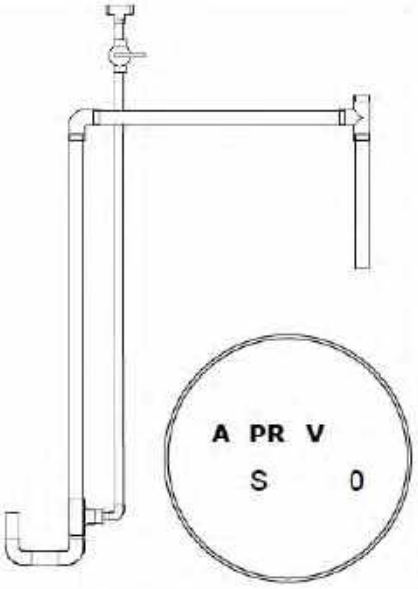
7) **Diffuser**
Material – EPDM
Diameter – 230mm (9inch)

Repair / Replacement Details:
Turn the system off. Replace the diffuser by making a new complete aeration pipe assembly fitted with the Diffuser. Cut the main aeration supply line, place the new diffuser in the system, weighed down with a small concrete block and rotate the diffuser under the biomass. Re fix the new aeration pipe assembly complete with a joining socket. Removing the old Diffuser is not required. Turn the system on. Purchase the complete assembly from Taylex®.

8) **Air Lift / Buffer with Control Valve**

The Air Lift / Buffer has been specifically designed to provide a buffer within the aeration chamber, to allow increased aeration time and to control the transfer of liquid to the Clarification Chamber. The Control Valve must be set to 55 in order for the buffer to function as designed. Using the 'Venturi Principle', air is injected into the base of the assembly to then lift and transfer the liquid. The specific design will stop when the buffer zone reaches the lower level and then restarts as the water level increases. The volume of the liquid transfer varies proportionally to the liquid level in the Aeration Chamber.

Repair / Replacement Details:
Turn the system off. Replace the Air Lift / Buffer assembly by cutting the main line and installing the new assembly with a joining socket. Turn the system on. Purchase the complete assembly from Taylex®.



9)
10) **100mm Sweep Tee With 400mm dropper pipe and 200mm riser**

Repair / Replacement Details:
Replacement tee and pipe can be purchased from a local plumbing store. Cut 100mm pipe at wall and using a 100mm slab repair coupling install new tee.

11) **Taylex® TFG Disk Filter**
Material – A.B.S and Nylon
Height – 400mm
Diameter – 300mm

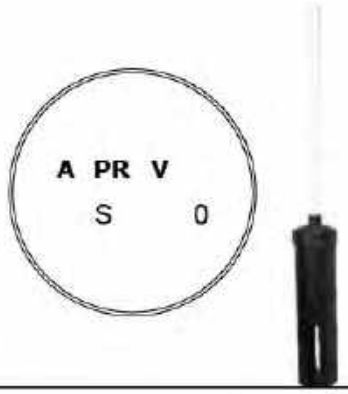
Repair / Replacement Details:
Replace the TFG filter complete by removing the filter from the housing and inserting the new filter. If Filter Rods require replacement, remove the old rods, one by one, inserting the new rod each time so the filter plates remain assembled. To replace the entire housing, cut and remove the old housing in the transfer pipe, insert a slab repair coupling, re glue and fit the new housing. Ensure the glue is set before re-fitting the TFG filter. Purchase the complete assembly from Taylex®.

12) Chlorine Dispenser

Material – HD Polyethylene
Length – 360mm
Diameter – 90mm

The chlorine dispenser is placed in the 100mm Tee located in the irrigation chamber.

Repair / Replacement Details:
Repairing the Chlorine Dispenser is not recommended. If the Dispenser is damaged, replace it with a new unit. Purchase the complete assembly from Taylex®.



13) Irrigation Pump

The irrigation pump is self-controlled via a ball bearing activated float switch. When the according volume is reached in the pump chamber, the ball bearing in the float moves and creates an active connection.
The treated effluent is pumped to the approved dispersal zone, as the chamber reaches minimum volume, the float drops and de-activates the pump. The type and capacity of the pump will be in accordance with the land application requirements.

Repair / Replacement Details:
Turn the system off. Replace the pump by disconnecting the barrel union, be sure not to drop the internal valve assembly. Lift the Pump Assembly out of the tank. Undo the threaded fitting connect to the outlet of the pump. Re apply thread tape and fix the threaded fitting back onto the pump. Return the assembly to the tank and re-connect the barrel union, ensuring the valve is seated correctly. Turn the system on. Purchase the correct pump from Taylex® or a local outlet, ensuring the performance is identical to the pump removed.

DAVEY D25 – 9m Head
Voltage – 220 ~240 IP 68
AMPS – 1.9 Phase 1 50hZ
Max Flow – 200L/min 7m

DAVEY D42A/B3 – 32m Head
Voltage – 220 ~240 IP 68
AMPS – 4.3 Phase 1 50hZ
Max Flow – 130L/min 7m

14) Alarm System High Water

Material – PVC
Length – 20mm
Width - 90mm
Trigger – High Water
Code – 3
Visual – Red L.E.D - 3 Flashes
Audible – Micro Buzzer
Voltage – 12V

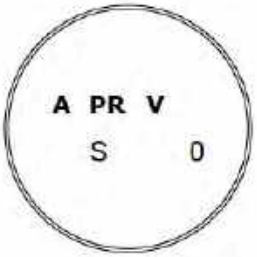
Repair / Replacement Details:
Turn the system off. Replace the float by disconnecting the electrical connection in the terminal block, located in the lower section of the control box. Feed the new float cable into the control box and connect to the terminal block, fixing the screws firmly. Re fix the float to the pipe assembly and loop the lead around the barrel union, to set the float height. Turn the system on. Purchase the float from Taylex®.

15) ECO Control Panel
(240v to 12V Power Supply)
Length – 160mm
Height – 100mm

The Taylex® ECO is a 12V controller powered by the 240v to 12v power supply plug. As the unit is 12V all works including replacements and repairs do not need to be completed by a Licenced Electrician. All service agents can therefore complete all works within the Control Box and on the Taylex® ECO Controllers.

The Taylex® ECO Controller Assembly (complete with Controller, Control Panel Box, 3 x GPO Assembly and Blower Box) is classed as electrical equipment and has been certified to comply with AS/NZS 3820, meeting the Electrical Safety requirements in Australia and New Zealand.

Repair / Replacement Details:
Turn the system off. Replace the Control Panel by removing the 4 screws in the control box. Disconnect the Loom plug from the rear of the panel. Connect the loom to the new panel; return the new Control Panel to the control box and re fix the 4 screws. Turn the system on. Purchase the Control Panel from Taylex®.



16) Control Panel Box
Material – HD Polyethylene
Height – 210mm
Length – 190mm
Width – 85mm

The weather proof control box is fixed to the side of the blower box using stainless steel screws. The control panel is fitted to the inside of this box and is connected to the power, high water alarm and pressure switch, via a gland at the back of the box.

Repair / Replacement Details:
Repairing boxes is not recommended. Replacements boxes be purchased from Taylex® or your local service agent.

17) Blower Box
Material – HD Polyethylene
Height – 350mm
Length – 600mm
Width – 400mm

The Blower boxed is fitted to the lid of the ABS using 4 x 30mm anchors.

Repair / Replacement Details:
Repairing boxes is not recommended. Replacement boxes can be purchased from Taylex® or your local service agent.

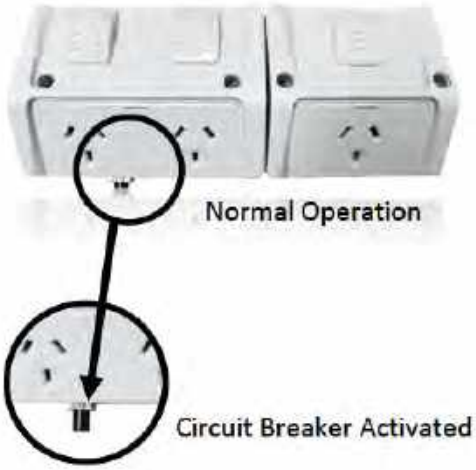
18) Weatherproof GPO's

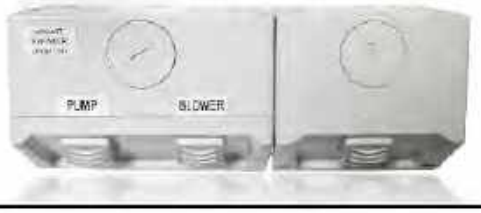
Single	Double
Height – 85mm	Height – 85mm
Length – 85mm	Length – 115mm
Width – 80mm	Width – 80mm

Mains 10amp power is connected through the 25mm coupling provided on the side of the PABS1500 and pulled up through a conduit into the Single GPO. The 12volt power pack plugs into the single GPO to power the control panel. The blower and irrigation pump are plugged into the double GPO.

The double GPO contains a 5amp circuit breaker, which will activate if either the pump or blower (or both) draw too many amps, indicating a fault with the pump or blower. The breaker can be reset by pushing in the button if activated. The systems normal operation including alarms will continue to function, if the breaker is activated.

Repair / Replacement Details:
Replacing the GPO's can only be completed by a licenced electrician, please refer to the Taylex® Electrical Connection instructions for details. Replacements can be purchased from Taylex® or your local service agent.



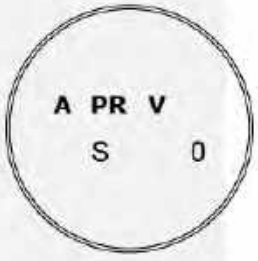


19) Light
Height – 30mm
Length – 20mm

The LED visual alarm is constructed within the Eco Panel. This LED Red light will flash when an alarm is present. The number of flashes represent the particular code.

Repair / Replacement Details:
Replacement of the LED lights only is not possible; the complete Control Panel must be replaced. Purchase the Control Panel from Taylex®.

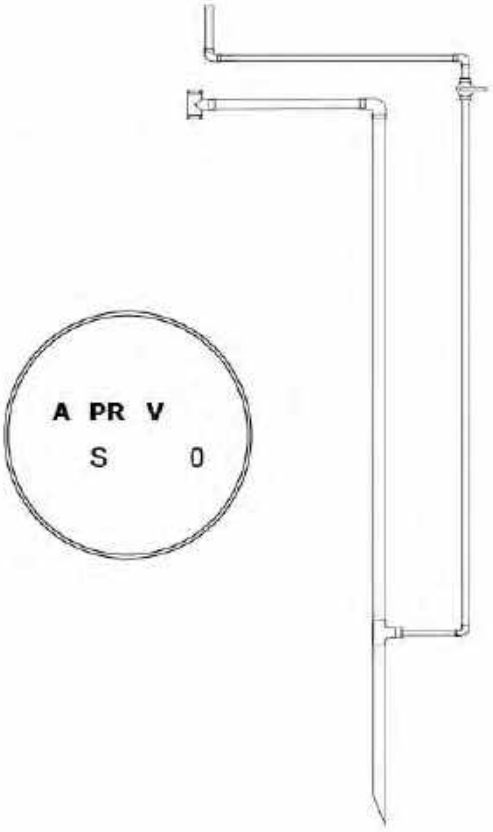
20) Nitto 80L Blower
Material – Alloy / Plastic
Height – 180mm
Width – 200mm
Length – 300mm
Weight – 4.9kg
Noise Rating: 40dB(A)
Capacity – 80L
Back Pressure Range – 10kpa – 20kpa
Motor Power – 86 Watts
Power Source – 240V 50hZ



Repair / Replacement Details:
Purchase replacement Blowers and parts from Taylex®.

21) Sludge Recirculation System

This is a typical set up for the transfer of fluids using the 'Venturi Principle'. Air is injected toward the base of a vertical open ended PVC conduit. Continuous displacement occurs as the air moves vertically to the liquid, drawing liquid through the bottom of the conduit. The air/liquid mixture reaches a vertical maximum where it then moves through the 90° bend into the primary chamber. The conduit is arranged in the base of the clarifier so that the residual sludge constitutes the main vacuum target.



Sludge Base Removal
Sludge deposit removal is to be scheduled 1 time per 6 years or as determined necessary by a licensed Taylex® Sales Technician or the client or due to mechanical failure.

Servicing
Routine maintenance/servicing of the Taylex® PABS1500 is to be scheduled quarterly or as determined necessary by an approved Taylex® Sales Technician or due to mechanical failure.
Refer to Field Service Report sheet for testing requirements.

Repair / Replacement Details:
Turn the system off. Replace the Sludge Recirculation Assembly by cutting the main line and installing the new assembly with a joining socket. Turn the system on. Purchase the complete assembly from Taylex®.

22) Non- Return Valve
Height – 85mm
Length – 140mm
Width – 85mm

Repair / Replacement Details:
Turn the system off. Replace the Non- Return Valve by cutting the pipe in either side of the valve. Re-join the pipe using sockets and glue the Valve and sockets together. Ensure the glue is set before turning the system back on.

7.5. Attachment 5D – DWER Basic Summary of Records

Contaminated Sites Act 2003
Basic Summary of Records Search Response

Report generated at 08:26:07PM, 26/03/2023

Receipt No:	
ID No:	*38570*

Search Results

This response relates to a search request received for:

13 Musson Rd
Henderson, WA, 6166

This parcel belongs to a site that contains 2 parcel(s).

According to Department of Water and Environmental Regulation records, this land has been reported as a known or suspected contaminated site.

Address	13 Musson Rd Henderson, WA, 6166
Lot on Plan Address	Lot 4 On Diagram 18018
Parcel Status	**Classification:** 14/07/2021 - *Remediated for restricted use* **Nature and Extent of Contamination:** Asbestos-containing material is present in soils at the site, beneath the pavement and beneath 0.25 metres of imported recycled construction and demolition product. **Restrictions on Use:** The land use of the site is restricted to the specific commercial/industrial land uses proposed in the "Site Management Plan, Lot 4 Musson Road & Lot 20 Rockingham Road, Henderson, Western Australia" (dated May 2021), which includes storage depot/laydown facility and temporary shelter domes, but not the construction of additional enclosed, permanent buildings or sensitive uses with accessible soil such as childcare centres, kindergartens, pre-schools and primary schools. The site should not be developed for a more sensitive use such as residential housing, childcare centres, recreational open space, or the construction of enclosed permanent buildings without further contamination assessment and/or remediation. Due to the presence of asbestos contamination in soil beneath the 0.1 metre asphalt and 0.25 metre crushed construction and demolition product capping layer, the Site Management Plan (dated May 2021) must be implemented for any intrusive works that may intercept asbestos contamination. **Reason for Classification:** This site was reported to the Department of Water and Environmental Regulation (the department) as per reporting obligations under section 11 of the 'Contaminated Sites Act 2003' (the Act), which commenced on 1 December 2006. This site comprises two parcels of land known as 13 Musson Road and 20 Rockingham Road, Henderson. 13 Musson Road was first classified under section 13 of the Act based on information submitted to the department by May 2011. 20 Rockingham Road was first classified under section 13 of the Act based on information submitted to the department by November 2011. The site (which

Contaminated Sites Act 2003
Basic Summary of Records Search Response

Report generated at 08:26:07PM, 26/03/2023

includes both parcels of land) has been classified again under section 13 of the Act to reflect additional technical information submitted to the department by June 2021.

The site was reported because contamination assessments undertaken in 2011 found asbestos-containing material (ACM) on surface soils at the site, within construction and demolition waste that had been crushed and compacted on-site.

The central and western portions of this site were historically used for market gardening for at least 10 years, between 1965 and 1974.

The eastern and southern portions of the site were excavated to a depth of between 4 and 10 metres below ground level as part of sand quarrying activities between approximately 2000 and 2006. The resulting quarry void was used as an inert landfill, after which it was capped with fill material from an adjacent site to the north of approximately two metres thickness. In around 2010, the landfill cap was covered with crushed and compacted construction and demolition waste.

Part of the site was also used for stockpiling, sorting and crushing construction and demolition material between 2003 and 2012. During that time, these activities were licensed by the department under Part V of the 'Environmental Protection Act 1986'.

Between February and April 2010, a portion of the site was used for scrap metal recovery.

Market gardening, landfilling, recycling (building materials) and scrap metal recovery are activities that have the potential to cause contamination, as specified in the guideline 'Assessment and management of contaminated sites' (Department of Environment Regulation, 2014).

An investigation undertaken on the eastern third of the site in August 2013 found that crushed and compacted construction and demolition waste, including ACM, was present to a depth of between 0.2 and 0.5 metres on average but extending to between 0.7 and 1.6 metres depth in isolated areas. ACM was present at quantities in excess of those specified in 'Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia' (Department of Health (DoH), May 2009) for commercial and industrial land uses. Asbestos fibres were also detected in one surface soil sample. ACM was not detected in the natural soils below the fill material.

Surface soils in the eastern portion of the site were investigated for possible contaminants associated with historical market gardening activities, such as pesticides and heavy metals. The investigations did not identify any impacts that were likely to pose a risk to human health, the environment or environmental values under the current commercial/industrial land use.

The contamination assessments undertaken to date have not included intrusive investigation of the inert landfill. Landfill gas investigations have not been carried out.

Groundwater investigations have not been carried out, and the quality of groundwater beneath the site is unknown.

During 2020 and 2021, the surface soil was capped with 0.25 metres of crushed, recycled concrete product. The product was subject to validation testing for asbestos before it was imported to the site, and was found to be suitable for commercial and industrial land use. It was then capped with an additional 0.1 metres of asphalt. The remediation and validation works were documented in a remediation and validation report dated May 2021. An Engineer's statement indicates that the capping/pavement material was installed correctly and of sufficient strength and resilience to resist

Contaminated Sites Act 2003
Basic Summary of Records Search Response

Report generated at 08:26:07PM, 26/03/2023

damage from the proposed use as a shipping container storage facility.

A Site Management Plan (SMP) dated May 2021 outlines management measures for any activity (such as excavation) that may disturb the asbestos-impacted fill and to conduct regular inspections and repairs of the capping/pavement layer. A tier 2 risk assessment has indicated that the contamination present on the site does not pose an unacceptable risk to human health, the environment or environmental values under any land use, provided that the SMP is implemented.

Based on the available information, the site appears suitable for the specific commercial/industrial land uses proposed in the SMP. These include storage depot/laydown facility and temporary shelter domes, but not the construction of additional enclosed, permanent buildings. Further assessment of potential contamination should be undertaken before any change to a more sensitive land use (e.g. residential housing, childcare centres, or the construction of enclosed permanent buildings).

The site is contaminated and has been remediated such that it is suitable for the specific commercial/industrial land uses proposed in the SMP, subject to implementation of the SMP. Therefore, the site is classified as 'remediated for restricted use'.

A memorial stating the site's classification has been placed on the certificate of title, and will trigger the need for further investigations and risk assessment should the site be proposed for a more sensitive land use.

The department, in consultation with the Department of Health, has classified this site based on the information available to the department at the time of classification. It is acknowledged that the contamination status of the site may have changed since the information was collated and/or submitted to the department, and as such, the usefulness of this information may be limited.

In accordance with Department of Health advice, if groundwater is being, or is proposed to be abstracted, the department recommends that analytical testing should be carried out to determine whether the groundwater is suitable for its intended use.

Other Relevant Information:

Additional information included herein is relevant to the contamination status of the site and includes the department's expectations for action that should be taken to address potential or actual contamination described in the Reasons for Classification.

Where the land is part of a transaction - sale, mortgagee or lease agreement, the land owners MUST PROVIDE WRITTEN DISCLOSURE (on the prescribed Form 6) of the site's status to any potential owner, mortgagee (e.g financial institutions) or lessee at least 14 days before the completion of the transaction. A copy of the disclosure must also be forwarded to the department.

At the time of classification, this site was subject to planning constraints under the Hope Valley-Wattleup Redevelopment Act 2000. The Hope Valley Wattleup Redevelopment Project Master Plan was approved by the Western Australian Planning Commission in 2004, and functions in a manner similar to a town planning scheme. The department understands that under the Master Plan, short to medium term redevelopment proposals must be temporary in nature, and no permanent built form is permitted at this site.

Action Required:

Contaminated Sites Act 2003
Basic Summary of Records Search Response

Report generated at 08:26:07PM, 26/03/2023

	The inspection and maintenance schedule in the Site Management Plan (dated May 2021) is required to be implemented to ensure the integrity of the capping layer is maintained. Groundwater and landfill gas investigations should be carried out prior to developing the site for a more sensitive use such as residential housing, childcare centres, or recreational open space; or before the construction of enclosed permanent buildings. Please also refer to Other Relevant Information and to the Restrictions on Use applicable to the site.
Certificate of Title Memorial	Under the Contaminated Sites Act 2003, this site has been classified as "remediated for restricted use". For further information on the contamination status of this site, please contact Contaminated Sites at the Department of Water and Environmental Regulation.
Current Regulatory Notice Issued	**Type of Regulatory Notice:** *Nil* **Date Issued:** *Nil*
General	No other information relating to this parcel.

8.0 ATTACHMENT 6A: EMISSIONS AND DISCHARGES

8.1.1. Emissions

The significant emissions and discharges considered likely from the construction and operation of the proposed facility are as described in **Table 9.1 of Attachment 1.**

A qualitative Environmental Risk Assessment (ERA) has been prepared for the identified emissions. The ERA has been prepared in accordance with Australian Standard AS 4360 Risk Management Guidelines, 2004 (AS4360-2004) to achieve the following:

- Identify the type of impact (hazards) associated with the proposed operation;
- Analyse the probability (likelihood) and significance (consequence) of the impacts occurring to determine the level of the risk;
- Evaluate the impacts to assess the extent and nature of management required;
- Identify and assess mitigation measures to determine the best management options to mitigate impacts; and
- Determine the level of residual risk following the implementation of mitigation measures.

The following environmental risk assessment (ERA) describes the facility emissions sources, controls and associated risks (initial and residual). The ERA has been prepared in accordance with Australian Standard AS 4360 Risk management Guidelines, 2004 (AS4360-2004),

The definition of risk according to AS4360-2004 is *"the chance of something happening that will have an impact on objectives"*. The assessment of risk is a factor of the likelihood of an impact occurring and the consequences of the impact occurring in relation to a particular receptor. The combination of these aspects will determine the level of risk of the impact.

The following tables outline the criteria that have been used to assess the likelihood and consequences of potential impacts occurring for the proposed operation. Potential impacts have been assessed for operational phase of the project. The likelihood of an impact arising is defined in Table 7. The likelihood relates to the probability of a potential hazard / impact occurring.

Table 5 - Likelihood (Probability) Scale

Category	Description	Score
Almost Certain	Is expected to occur in most circumstances. Almost certain or the most likely and expected result. Has a >90% chance of occurring if the risk is not mitigated.	10
Likely	Will probably occur in most circumstances. Quite possible I not unusual. Has a 60-90% chance of occurring if the risk is not mitigated.	6
Possible	Might occur at some time. Would be a remotely possible coincidence. Has a 40- 60% chance of occurring if the risk is not mitigated.	3
Unlikely	Could occur at some time. Would be remotely possible coincidence. Has a 10- 30% chance of occurring if the risk is not mitigated.	2
Rare	May occur only in exceptional circumstances. Less than 10% chance of occurring if the risk is not mitigated.	1

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Table 6 - Consequence Levels

Category	Description	Score
Catastrophic	A major event which could cause severe or irreversible damage to the natural and I or human environment, including the following: • major legislative, regulatory or policy breach including regulatory intervention or prosecution; • Extensive long term detrimental environmental and social impacts; and • Widespread, permanent or persistent damage to ecosystems including the eradication of endangered species or habitats, or the destruction of cultural heritage sites.	20
Major	An event which could have a substantial and permanent consequence to the natural and I or human environment, including the following: • Legislative, regulatory or policy breach; • Widespread long term detrimental environmental and social impact; and • Localised damage to ecosystems including the eradication of endangered species or habitats, or the destruction of cultural heritage sites.	10
Moderate	An event which could create substantial temporary or minor permanent damage to the natural and I or human environment, including the following: • Contract or policy breach; • Localised short term detrimental environmental and social impacts; and • Localised temporary I repairable damage to ecosystems including the eradication of endangered species or habitats, or the destruction of cultural heritage sites.	5
Minor	An event, which could have temporary and minor effects to the natural and I or human environment, including the following: • Localised minor short-term detrimental environmental and social impacts; and • Minor temporary damage to ecosystems or cultural heritage sites.	2
Negligible	No detrimental impact on the natural and I or human environment is measured or envisaged.	1

Once the likelihood and consequence has been defined for potential impacts, the level of risk associated with the impacts have been determined to give an overall risk rating, as presented in table 9.

The level of risk is calculated by Likelihood x Consequence = Risk Rating.

Table 7 - Risk Matrix

Likelihood	Consequence				
	Catastrophic 20	Major 10	Moderate 5	Minor 2	Negligible 1
Almost Certain 10	200	100	50	20	10
Likely 6	120	60	30	12	6
Possible 3	60	30	15	6	3
Unlikely 2	40	20	10	4	2
Rare 1	20	10	5	2	1

Table 8 - Definition of Risk Ratings

Risk Rating	Risk Category	Description
>90-200	Extreme	Immediate action is required. Appropriate measures are to be developed to mitigate and manage the potential impacts associated with risks.
>20-90	High	Management / long-term risk reduction is required. Appropriate measures are to be developed to mitigate and manage the potential impacts associated with risks.
>6-20	Medium	Management of risks is required. Risks can be mitigated by implementing reasonable / standard management measures.
0-6	Low	Acceptable risks are assessed and controlled as required. No specific management measures are required or risks can be directly managed through design measure, general mitigation measures and safety controls.

The risk rating for potential impacts assumes that no management / mitigation measures will be put in place and determines the inherent (uncontrolled) risk. Mitigation measures have been recommended for potential impacts and the risk rating revised to determine the level of residual risk remaining, following the implementation of these measures.

Mitigation measures have been identified in accordance with hierarchy of control measures as follows:

- Elimination - Eliminate the hazard from the project altogether (i.e. eliminate a hazardous task that is not required);
- Substitution - Replace a process with a less hazardous one;
- Isolation - Isolate the hazard from receptors through the use of barriers etc.;
- Engineering - Redesign work procedures / processes to reduce the hazard;
- Administrative - Provide construction workers with training, instruction, supervision, job rotation and safe work procedures to prevent impacts / incidents.

8.2. Environmental Risk Assessment

8.2.1. Construction Phase

The overarching environmental management objectives for the site during the construction phase of the project are as follows:

- Comply with relevant regulatory requirements concerning emissions to air, land and water.
- Minimize to the extent practicable all emissions from the proposed construction activities to protect human health and the environment.

Impact	Source	Details	Variability	Inherent Risk	Mitigation/Management Measures	Responsibility	Timing	Residual Risk
Dust	Movement of plant and equipment. Handling of dry materials.	The proposed construction works may include excavation, traffic movements and minor concrete works. Exposed areas will be limited as no earthworks are proposed as part of the construction works. It is expected that construction works will produce minimal dust as all roadways are sealed.	Planned	Medium 30	Conformance to the site specific SMP and an Asbestos removal control plan (ARCP) if subsurface excavation is performed. This may include the relevant regulatory reporting and monitoring requirements.	Site Manager	Pre, during and post construction works	Low 6
Odour	Spraying of chemicals/ paint	The spraying of chemicals may reduce air quality. It is expected that paint and other chemicals will be used during the construction works. The scale however of the proposed works are very minor and can be considered negligible.	Planned	Low 6	If paint and chemicals with the potential to increase the odour emissions are required to be used during the construction works, spraying will not be undertaken during windy conditions.	Site Manager	Pre, during and post construction works	Low 6
Noise and vibration	Machinery, vehicles	The proposed construction works may include activities resulting in noise and vibration. Noise and vibration may pose a health risk to workers and a nuisance to adjacent properties. However, the site is located in an industrial area away from major communities. The duration of any such activity is expected to be short and therefore impacts are not considered to be significant.	Planned	Low 6	• Works will be undertaken per the HazRad HSEQ Management System noise management procedures. • Affected adjacent land users will be notified when work is likely to cause Speed limits will be implemented on-site.	Site Manager	Pre, during and post construction works	Low 6

Impact	Source	Details	Variability	Inherent Risk	Mitigation/Management Measures	Responsibility	Timing	Residual Risk
Soil and groundwater contamination.	Machinery and Equipment maintenance activities	All stages of the construction phase may involve moving or stationary plant and equipment maintenance. Spills, leaks or accidental releases of hazardous substances may occur during the operation, storage, re- fuelling or maintenance of plant and equipment, which may impact soil and groundwater.	Planned	Medium 15	• Storage areas for fuels, oils, and chemicals will be within bunded areas per the relevant Australian Standards for the storage of Dangerous Goods. • Storage areas will be clearly labelled. Safety Data Sheets (SDS) will be available which indicate the appropriate action to be taken in the event of a spill. • Maintenance of equipment will be undertaken in appropriate areas, which prevents or minimises pollution of soil and groundwater. • Work will be undertaken per the site HazRad HSEQ plan. • Spill containment kits will be available on site. • All spills or incidents will be reported to the Site Manager and, if required, to the appropriate Regulatory Authority. • Daily site inspections will be conducted, recording any spills and/or non-compliances and the corrective action taken.	Site Manager	During construction works	Low 6
Release of solid waste debris into the environment.	Inappropriate disposal of waste materials	Waste will be generated during the proposed construction works. Solid waste will generally comprise of: • Packaging materials (plastic, cardboard, paper and pellets) • Scrap material • Putrescible waste • Concrete waste/adhesives/paint	Planned	Low 6	• Works will be undertaken per the site HazRad HSEQ plan. • The waste management system will follow the waste hierarchy (Reduce; Reuse: Recycle: Responsible Disposal) • The site will be maintained in a clean and tidy state. • All waste will be stored in appropriate containers and	Site Manager	Pre, during and post construction works	Low 4

Impact	Source	Details	Variability	Inherent Risk	Mitigation/Management Measures	Responsibility	Timing	Residual Risk
		If the waste is not managed correctly it can cause the degradation of land and the attraction of weeds and/or pest species.			protected from adverse weather and vermin. All waste disposal containers will be clearly labelled. • Materials and products with recycled content will be proposed for the works wherever these are cost and performance-competitive and environmentally preferable to the non-recycled alternative. • Toilet facilities will be provided for workers during construction works. • All personnel will be provided with training on waste management.			

8.2.2. Operational Phase

The overarching environmental management objectives during the operations phase of the project are as follows:

- Comply with relevant regulatory requirements concerning emissions to air, land and water.
- Minimize to the extent practicable all emissions from the proposed operational activities to protect human health and the environment.

Impact	Source	Details	Variability	Inherent Risk	Mitigation/Management Measures	Responsibility	Timing	Residual Risk
VOC's emission	Handling of VOC containing substances.	VOC's emissions may occur from the handling of waste in the unloading, processing and waste storage areas.	Planned	Low 6	• All VOC wastes will be stored in sealed in packages and tanks. • A complaint management procedure, will be employed at the site as part of the Site Based Management Plan, including the maintenance of a complaints register.	General Manager	During operation	Low 6
Smoke	Fire	Accidental or deliberate burning of waste.	Random	High 30	• A Fire and Emergency Management Plan will be in place at the facility- See **Attachment 8F.** • A Site Emergency Response Plan will be in Place for the facility - See **Attachment 8G.** • No burning of vegetation or other materials will be permitted on site. • Smoking will be permitted in designated areas only. Appropriate disposal facilities for waste cigarettes will be provided • Health and safety and incident management procedures will be employed at the site through the HazRad HSEQ Management System. • All staff will be inducted prior to the operations commencing and	General Manager	During operation	Low 6

Impact	Source	Details	Variability	Inherent Risk	Mitigation/Management Measures	Responsibility	Timing	Residual Risk
					made aware of the HazRad HSEQ Management System, Site Based Management Plan, health and safety and fire risks. • Appropriate safety programs will be implemented including nominated medical arrangements, firefighting equipment, evacuation procedures and first aid provision. • Storage areas for Dangerous Substances/ Goods will be compliant with the relevant legislation. • All site workers will have appropriate training in the handling of Dangerous Substances/ Goods and Hazardous materials and chemicals.			
Dust	Processing and handling of dry waste materials	Air pollution from dust may occur from the following activities: • milling activities • traffic movements on-site.	Continuous and intermittent	Medium 12	• All mill processing of contaminated waste will be within and enclosed space and shrouded structure • Wet exhaust scrubbers will be located on the plastic shrouds to ensure any dust contaminant is contained • General housekeeping practises will be implemented to prevent the accumulation of waste materials that may generate dust. • All traffic areas are sealed • Complaint management procedures, which are currently employed at the site, as a part of the HazRad HSEQ Management Plan, including the maintenance	General Manager	During operation	Low 4

Impact	Source	Details	Variability	Inherent Risk	Mitigation/Management Measures	Responsibility	Timing	Residual Risk
					of a complaints register, will be implemented in order to identify areas if dust management becomes a problem.			
Odour emissions	Storage and processing areas	During the processing and storing of waste materials air pollution from odour may occur.	Continuous/Planned	Medium 12	• Odour will be managed at the site according to the HazRad Wattleup Odour Management Plan **(Attachment 8H)**. • Packaged and bulk waste to be stored in sealed containers • Waste materials accepted to be risk assessed prior to acceptance to identify odour or other risks • General housekeeping practices will be implemented to prevent the accumulation of waste materials that may generate odour. • Community notification will be undertaken where appropriate when work is likely to cause odour impact on the public.	General Manager	During operation	Low 6
Noise and vibration	Waste Transfer Operations	The following site activities which may result in noise and vibration generation: • Handling and transportation of waste • Treatment of waste • Truck movement Noise and vibration may pose a health risk to workers and a nuisance to adjacent properties. The site is located in an industrial area away from major residential areas.	Continuous	Low 6	• Works will be undertaken in accordance with the HazRad HSEQ Management System noise management procedures for the site. • Speed limits will be implemented on site to control noise generation from traffic movements.	General Manager	During operation	Low 4
Soil and Groundwater contamination	Spills and leaks outside designated waste management	The operation of the waste transfer facility may result in the spillage, leakage, or accidental release of pollutants outside of designated waste processing areas.	Continuous	High 30	• All operational activity to occur in covered and bunded hardstand areas • All waste process areas will be covered and bunded to prevent	General Manager	During operation	Low 6

Impact	Source	Details	Variability	Inherent Risk	Mitigation/Management Measures	Responsibility	Timing	Residual Risk
	and process areas				stormwater ingress. • Storage areas for oils, and chemicals will be bunded per the relevant Australian Standards for the storage of Dangerous Goods. • Refuelling plant and equipment will be undertaken within bunded areas. • Vehicle washdown will be undertaken in designated bunded areas or off-site • Cleaning of equipment will be undertaken in appropriate areas, which prevents or minimises pollution waters. • All work at site will be undertaken in accordance with the HazRad HSEQ Management System spill management procedures for the site. • Storage areas will be available clearly labelled with the quantity and characteristics of chemical stored. Safety Data Sheets (SDS) will be available which indicate the appropriate action to be taken in the event of a spill. • Site workers will have appropriate training in the handling of Hazardous materials, chemicals and spill response. • Spill containment equipment kits will be available on site. • All spills or incidents must be reported to the General Manager and, if required, to the appropriate Regulatory Authority. • Daily site inspections will record any spills or non-compliances and the corrective action taken.			

Impact	Source	Details	Variability	Inherent Risk	Mitigation/Management Measures	Responsibility	Timing	Residual Risk
Gross pollution from solid waste	Solid waste inappropriately stored or secured.	The site is location is elevated in the landscape and regularly subject to strong winds. The facility will receive solid waste as part of its routine operations. Solid waste will generally comprise of: • Packaging materials (plastic, cardboard, paper and pellets) • Scrap material • Putrescible waste • Concrete waste/adhesives/paint If the waste is not managed and secured appropriately, it could easily be blown off-site.	Planned	Low 6	• Operations will be undertaken in accordance with the HazRad HSEQ Management System spill management procedures for the site. • Where available, suitable waste will be reused or recycled. The waste management system will follow the waste hierarchy (Reduce; Reuse: Recycle: Responsible Disposal) • The site will be left in a clean and tidy state after daily operations. Loose (unsecured) waste will not be left on site • All waste will be stored in appropriate containers and protected from adverse weather and vermin. All waste disposal containers will be clearly labelled. • All personnel will be provided with training on appropriate and responsible waste management.	General Manager	During operation	Low 4

9.0 ATTACHMENT 7: SITING AND LOCATION

9.1. Site Details

Location of Premises

The proposed facility site is located within the suburb of Wattleup, and Precinct 8 (Resource Recovery) of the Latitude 32 Industrial Zone, as depicted in Attachment 2. The Facility address, 13 Musson Rd, Wattleup, is made of the approximate eastern third of the Cadastral parcel, Lot 4 on Plan D018018, within the City of Cockburn (Refer **Attachment 2A**).

Site Description

The legal land description of the site is presented in **Table 9** below.

Table 9 - Site Details

Details	Lot 145
Site Area	~7.7 hectares
Street Address	Musson Rd Wattleup
Legal Description	Lot 4 on Plan D018018
Local Government Authority	City of Cockburn
Zoning	Latitude 32 Industry Zone

9.2. Environmental Setting

9.2.1. Climate

The site location in Western Australia, experiences a Mediterranean climate characterized by warm, dry summers and mild, wet winters. Here's a seasonal breakdown of the climate:

Summer (December - February)

- **Temperature:** Warm to hot with average daily maximums around 27°C. Temperatures can often exceed 30°C.
- **Rainfall:** Very low rainfall, averaging around 6-11 mm per month.
- **Wind:** Dominated by the "Fremantle Doctor," a strong afternoon sea breeze that provides relief from the heat. This wind typically arrives between noon and 3 pm, blowing from the southwest.

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- **Humidity:** Relatively low humidity.
- **Sunshine:** Abundant sunshine with long daylight hours.

Autumn (March - May)

- **Temperature:** Mild with average daily maximums decreasing from 26°C in March to 20°C in May.
- **Rainfall:** Rainfall starts to increase, particularly in May, with monthly averages ranging from 16 mm to 113 mm.
- **Wind:** The Fremantle Doctor becomes less frequent and weaker.
- **Humidity:** Gradually increases as the season progresses.

Winter (June - August)

- **Temperature:** Cool and mild with average daily maximums around 17-18°C.
- **Rainfall:** Wettest season with monthly averages ranging from 118 mm to 166 mm.
- **Wind:** Winds are generally lighter and more variable in winter, with occasional storms.
- **Humidity:** Highest humidity levels of the year.

Spring (September - November)

- **Temperature:** Mild and warming up with average daily maximums increasing from 18°C in September to 23°C in November.
- **Rainfall:** Rainfall decreases significantly, with monthly averages ranging from 69 mm to 18 mm.
- **Wind:** The Fremantle Doctor starts to return, becoming more frequent and stronger as summer approaches.
- **Humidity:** Gradually decreases.
- **Sunshine:** Plenty of sunshine with increasing daylight hours.

9.2.2.Geology

The Site is underlain by Quaternary aged Tamala Limestone, which contains various proportions of quartz sand, fine to medium grained shell fragments and minor clayey lenses. The quarts sand varies from fine to coarse grained, but is predominantly medium grained, moderately sorted, sub angular to rounded and commonly stained with limonite. At the base of the Tamala Limestone, glauconite and phosphatic nodules derived from the Molecap

Greensand are sometimes present. The Limestone contains numerous solution channels and cavities, particularly in the zone where the water table fluctuates. In some areas, the limestone formation exhibits karst structures. The Tamala Limestone varies in thickness along the coastal plain depending mainly on topography but is known to have a maximum thickness of 110m. Underlying this unit at depth is Kardinya member of the Osborne Formation, which is a Cretaceous aged formation of Sandstones and Shales (Gozzard, 1986).

9.2.3. Acid Sulphate Soils

The Quaternary sands derived from the Tamala Limestone underlying the site are classified as low or no known risk of acid sulphate soils being present (DWER, 2019).

9.2.4. Hydrogeology

According to the Perth Groundwater Atlas (accessed July 2019), groundwater is indicated to be approximately 6m bgs (equivalent to 1m AHD) along the western boundaries of Lot 4 and Lot 20 and 16m bgs in the eastern portion of Lot 4 / central portion of Lot 20 i.e. the highest topographic point within the Site. It is understood there is a groundwater abstraction bore installed in the west of Lot 4 which was used for dust suppression; however this does not appear to be registered in the Water Information Reporting (WIR) database managed by DWER.

9.2.5. Hydrology

The nearest surface water is Mount Brown Lake located approximately 350m southwest of the site and groundwater flows to the west towards the Indian Ocean located approximately 2km west of the site (see **Attachment 2C**).

9.2.6. Surrounding Land Uses

Surrounding land uses are summarised in **Table 10** below.

Table 10 - Surrounding Land Uses

Direction	Land Use
North and East of Lot 20	Land adjacent to the north and east of the Site is occupied by 'Henderson Waste Recovery Park' (920 Rockingham Road) which is a regional waste disposal and recycling facility operated by the City of Cockburn. The facility accepts commercial waste and bulk household items, including: timber; metal; E-waste; C&D waste; commercial waste; household items such as whitegoods, electronic equipment, furniture etc.; domestic household hazardous waste (domestic,); paint; innerspring mattresses; and asbestos. Domestic quantities of green waste (including branches and pruning suitable for mulching) are also accepted at the facility. The facility which includes a transfer station, weighbridge and reuse shop is open seven days a week. The facility extracts methane from

Direction	Land Use
	decomposing waste to generate 3.195 megawatts which is used to power properties (3,300 via Synergy's main electricity grid).
North of Lot 4	There is a block of land between Lot 4 and Lot 20 (11 Musson Road) which is largely vacant (former market garden) with a residential house in the southwest and a shed in the east. There is a commercial premises (Uneeda Caravan Henderson Storage) located west of the residential block.
West	Rockingham Road is situated west of Lot 20 whilst Musson Road is situated west of Lot. There are approximately 6 lots west of Lot 4, between Musson Road and Rockingham Road. The northern most lot appears to be used for storage / laydown (sea containers / haulage trucks). One lot, approximately 20m southwest of Lot 4, comprises a residential property. The remainder of the lots appear to be vacant.
South	Land adjacent to the south of Lot 4 and Lot 20 comprises vacant former market garden.

9.3. Current Site Conditions

The approximate 7.7 ha site currently consists of a fenced open area with no specific infrastructure or structures in place. The site surface consists of rolled and compacted recycled bitumen presenting a permeable surface. The yard is currently used for temporary shipping container storage.

HazRad have entered a Lease arrangement for the proposed site subject to Works Approval being given for this proposal.

The site is currently serviced with appropriate industrial/utility services including reticulated water, a proposed sewer network, electricity and telecommunications. All internal roads are constructed with recycled aggregate, and structures conform with the Latitude 32 development conditions

10.0 ATTACHMENT 8: ADDITIONAL INFORMATION SUBMITTED

The document listed below are provided are provided in the subsequent pages, in support of this application:

- Attachment 8A – Site Management Plan
- Attachment 8B – Thuroona Services Class A Asbestos Licence WUA184
- Attachment 8C – Product Destruction Unit
- Attachment 8D – HotWash Drum Cleaner Pressure Unit
- Attachment 8E – Moog Drum Cleaning Attachment Specification
- Attachment 8F – HazRad Wattleup Fire and Emergency Management Plan
- Attachment 8G – HazRad Wattleup Site Management Plan
- Attachment 8H – HazRad Wattleup Odour Management Plan
- Attachment 8I – HazRad Wattleup Timber Shredding Environmental Noise Impact Assessment

10.1. Attachment 8A – Site Management Plan

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SITE MANAGEMENT PLAN

Lot 4 Musson Road & Lot 20 Rockingham Road, Henderson, Western Australia

Prepared For:	Whitfield Court Pty Ltd PO Box Wattleup WA 6166
Report Number:	AP2021-175
Report Version:	V1
Report Date:	19 May 2021

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Aurora Environmental has implemented a comprehensive range of quality control measures on all aspects of the company's operation.

An internal quality review process has been applied to each project task undertaken by us. Each document is carefully reviewed and signed off by senior members of the consultancy team prior to issue to the client.

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Prepared by: [redacted] [redacted] 19 May 2021

Signature Date

Reviewed / Approved by: [redacted] [redacted] 19 May 2021

Signature Date

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LIST OF ABBREVIATIONS

ACM	Asbestos Containing Material
AF	Asbestos Fines
AFM	Airborne Fibre Monitoring
AHD	Australian Height Datum
bgl	below ground level
C&D	Construction & Demolition
CSM	Conceptual Site Model
DA	Development Application
DEC	Department of Environment and Conservation
DEP	Department of Water and Environmental Regulation
DoH	Department of Health
DWER	Department of Water and Environmental Regulation
EIL	Ecological Investigation Level
FA	Fibrous Asbestos
ha	Hectare
HIL	Health Investigation Level
km	Kilometer
L	Litre
m	Meters
mg/kg	Milligram per kilogram
mm	Millimetre
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environmental Protection Measure
OCP	Organochlorine Pesticide
PPE	Personal Protective Equipment
RAP	Remediation Action Plan
RCG	RCG Technologies Pty Ltd
SMP	Site Management Plan
SRV	Site Remediation Validation

SWMS	Safe Work Method Statement
WAPC	Western Australian Planning Commission
WIR	Water Information Reporting
w/w	weight per weight
%	Percent

KEY DEFINITIONS

ACM	Asbestos Containing Material (ACM) which is in sound condition, although possibly broken or fragmented, and the asbestos is bound in a matrix; for instance, asbestos fencing or vinyl tiles. This is also restricted to material that cannot pass through a 7 mm x 7 mm sieve (Department of Health, 2009).
AF	Asbestos fines (AF) include free fibres of asbestos, small fibre bundles and also ACM fragments that pass through a 7 mm x 7 mm sieve (Department of Health, 2009).
FA	Fibrous asbestos (FA) encompasses friable asbestos material, such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products. Friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure (Department of Health, 2009).
CONTAIMNATED	'Contaminated' as defined in the *Contaminated Sites Act 2003,* in relation to land, water or a site, means having a substance present in or on that land, water or site at above background concentrations that presents, or has the potential to present, a risk of harm to human health, the environment or any environmental value.
CLEAN FILL	Clean fill means raw excavated natural material such as clay, gravel, sand, soil or rock fines that: a) has been excavated or removed from the earth in areas that have not been subject to potentially contaminating land uses including industrial, commercial, mining or intensive agricultural activities; and b) has not been processed except for the purposes of: i. achieving desired particle size distribution; and/or ii. removing naturally occurring organic materials such as roots; and c) does not contain any acid sulfate soil; and d) does not contain any other type of waste.

EXECUTIVE SUMMARY

Aurora Environmental was engaged by Whitfield Court Pty Ltd (Whitfield) to prepare this Site Management Plan (SMP) as part of the redevelopment of Lot 4 Musson Road and Lot 20 Rockingham Road, Henderson, Western Australia (WA) (the 'Site').

SOURCES OF CONTAMINATION

Sources of contamination within the Site comprise:

1. Crushed construction and demolition (C&D) material was produced onsite between circa 2012 and 2013 (licensed as a solid waste depot under the *Environmental Protection Act 1986*) and used as general fill primarily across the eastern and southern portion of Lot 20 and entirety of Lot 4, typically ranging between 0.2-0.6m in thickness. The crushed C&D material was confirmed to contain asbestos in the form of asbestos containing material (ACM) e.g., cement bonded asbestos; asbestos fines (AF) and rare friable asbestos e.g., vinyl flooring with paper backing. The crushed C&D material was also confirmed to contain low levels of organochlorine pesticides, although it is noted that sampling was limited.

   This source of contamination represented an unacceptable risk to Site users and as such needed to be remediated.

2. The eastern portion of Lot 20 and Lot 4 was also previously a sand and limestone quarry (depth ranging between 4 and 10m below surface level). The quarry was subsequently backfilled with C&D material. No sampling of this material has been completed to date, however based on the available information it is concluded to be largely inert waste (Type 1) comprising largely C&D material such as crushed concrete, bricks etc. Some plastic comprising ties used to hold pallets of bricks were identified during the June 2019 investigation, suggesting that the some of the waste buried onsite may have originated from skip bins on construction sites.

3. In the absence of investigation data, the material in the quarry is identified as a potential source of ground gases and also groundwater contamination. The Department of Water and Environmental Regulation (DWER) do not currently require a ground gas or groundwater investigation whilst the Site is developed for non-sensitive uses (such as storage yard). Any future non-sensitive uses may require additional assessment and / or investigation to support the proposal.

REMEDIATION & RESTRICTIONS

The Site was remediated to address between 2019 and 2021 using an in-situ contain strategy to manage asbestos contaminated C&D material onsite below a capping layer comprising 100mm of asphalt and 250mm of engineered sub-base (crushed concrete). This also served to cap the quarry area, however the potential for ground gases and groundwater impacts to be present cannot be ruled out. The Site is consequently expected to be classified 'Remediated for Restricted Use' in accordance with the *Contaminated Sites Act 2003*. Restrictions include:

- The Site is restricted to non-sensitive commercial / industrial uses as prescribed in the Remediation Action Plan (RAP) (Aurora Environmental, 2019) and Site Remediation Validation (SRV) (Aurora Environmental, 2019) report such as:
  - Storage depot / laydown facility (e.g., sea containers, demountables and construction / mining equipment etc.).

- Temporary shelter domes constructed to provide under cover storage / work areas.
- The existing residential property on the western boundary of Lot 20, abutting Rockingham Road was proposed to remain and is intended to be used as a Site office.

If sensitive Site uses are proposed in the future, then additional assessment of ground gases and the type of construction may be required.

- In accordance with general advice from the Department of Health (DoH), if groundwater is being, or is proposed to be abstracted, DWER recommends that analytical testing should be carried out to determine whether the groundwater is suitable for its intended use.
- The Site is required to operate in accordance with an SMP prepared specifically to address the identified constraints within the Site to ensure that the asbestos contaminated C&D material, ground gases and groundwater do not represent a potentially unacceptable risk to Site users.
- The placement of a memorial on the certificate of title for the Site to notify of the presence of contamination issues and related restrictions.

OBJECTIVES

This SMP has been prepared to meet statutory obligations under the *Contaminated Sites Act 2003* (Western Australia).

The overarching objective of this SMP is to ensure that subsurface constraints within the Site, namely asbestos contaminated C&D material, are identified, monitored and managed in perpetuity.

This SMP specifically provides a framework for the management of contaminated C&D material so that the health and safety of Site workers and users together with the environment are protected from adverse impacts that could eventuate from uncontrolled subsurface disturbances below the capping layer. This SMP also details the capping inspection and maintenance program to manage capping wear over time.

APPLICABILITY

This SMP relates specifically to Lot 4 Musson Road and Lot 20 Rockingham Road in Henderson (the 'Site').

This SMP is applicable to the Site in perpetuity or as long as subsurface constraints associated with the residual contaminated C&D / soils are present and whilst potential sources comprising ground gases and groundwater remain uncharacterised.

This SMP shall also be implemented where one or more of the following scenarios apply:

1. Where the proposed area of subsurface disturbance coincides with a subsurface constraint.
2. Where known or suspected subsurface contamination has become accidentally exposed.
3. Where there is any other reason to believe the subsurface work area may be affected by contaminated C&D / soils.

SCOPE

Key information provided within this SMP includes:

1. Identification and location of residual contaminated C&D / soils (including thickness of capping layer).
2. Identification of the duties and responsibilities of Site users in implementing the SMP.
3. Identification of potential hazards associated with intrusive subsurface works and key management controls required to be implemented.
4. Management / maintenance requirements for each of the identified subsurface constraints.
5. Contingency measures in the instance that subsurface contamination is accidentally exposed / intersected.

Readers are advised that it is not the intention of this plan to prescribe task specific safety procedures for subsurface access, but rather to identify potential hazards and provide a management framework within which issues and subsequent strategies can be considered.

It is the intended that Site workers planning to undertake subsurface activities in areas or depths where subsurface constraints exist, will incorporate the key principles detailed in this management plan within their occupation-specific Safe Work Method Statements (SWMS), Health and Safety Plans (HSP), Environmental Management Plans (EMP) and Asbestos Management Plan (as applicable).

1 INTRODUCTION

Aurora Environmental (Aurora) was engaged by Whitfield Court Pty Ltd (the 'Site Owner', herein referred to as 'Whitfield') to prepare this Site Management Plan (SMP) FOR Lot 4 Musson Road and Part Lot 20 Rockingham Road, Henderson, Western Australia (WA) (the 'Site') (see Figures 1 and 2). Site identification details are presented in Table A.

TABLE A: SITE IDENTIFICATION

DETAIL	LOT 4	LOT 20
Certificate of Title	Plan 18018; Volume 117; Folio 833	Plan 75527; Volume 1837; Folio 895
Street Number	13 Musson Road, Henderson, WA 6166 (see Figures 1 and 2)	962 Rockingham Road, Henderson, WA 6166 (see Figures 1 and 2)
Area	3.04ha (30,402m^2)	6.71ha (67,166m$^{2)}$

1.1 PURPOSE OF THIS PLAN

The Site was remediated between 2019 and 2021. The strategy implemented was based on in-situ containment of pre-existing asbestos contaminated C&D material. The overarching purpose of this SMP is therefore to ensure the subsurface constraints, namely asbestos contaminated C&D material, within the Site are identified, monitored and managed in perpetuity. This SMP specifically provides a framework for the management of contaminated soil so that the health and safety of Site workers and users together with the environment are protected from adverse impacts that could eventuate from uncontrolled subsurface disturbances.

Specific SMP objectives include:

1. outline maintenance requirements to prevent residual contamination becoming accidentally exposed;
2. outline measures to ensure the integrity of the warning barrier is maintained;
3. prevent uncontrolled exposure to residual contaminated soil;
4. ensure that subsurface works are appropriately managed; and
5. satisfy regulatory requirements for the preparation and implementation of a SMP to achieve the classification of '*Remediated - Restricted Use*' in accordance with the *Contaminated Sites Act 2003*.

1.2 SCOPE

This SMP comprises the following information:

- An abridged summary of the Sites history, environmental setting, previous investigations and remedial works.
- The location of residual contaminated C&D material that remains within the Site.
- Information regarding the capping material and thickness.
- Identification of the duties and responsibilities of Site users in implementing the SMP.

- Identification of inspection and maintenance requirements.
- Performance indicators to evaluate the effectiveness of the SMP in meeting its objectives and as a tool for monitoring areas of potential future SMP applicability.
- Potential hazards associated with intrusive subsurface works in areas or depths that may intersect warning barriers and contaminated soils so that appropriate safe working procedures and environmental management protocols can be developed and implemented.
- Contingency measures in the instance that asbestos contaminated C&D material / soils becomes accidentally exposed.
- Example forms that will enable the Site Owner to document that sufficient information has been provided that will enable Site workers to take due care prior to accessing the subsurface; and the management of any subsurface constraint related environmental incidences or hazards can be documented should they arise.
- General environmental management strategies for stockpiles, dust / air quality and waste in the event subsurface works are required to be planned e.g., underground service installation.

The scope outlined above is in general accordance with the following guidelines:

- Assessment and Management of Contaminated Sites (Department of Environment Regulation [DER], 2014).
- Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia (Department of Health [DoH], 2009).
- National Environmental Protection (Assessment of Site Contamination) Measure (NEPM) 1999 (National Environmental Protection Council [NEPC], 2013).

NOTE 1.	It is not the intention of this management plan to prescribe task specific safety procedures for subsurface access, but rather to identify potential hazards and provide a management framework of issues and subsequent strategies to be considered. It is the expectation of this SMP, that Site workers planning to undertake subsurface activities in areas or depths where subsurface constraints exist, will incorporate the key principals of this management plan within their occupation-specific Safe Work Method Statements (SWMS), Health and Safety Plans (HSP), and Environmental Management Plans (EMP).

1.3 APPLICABILITY OF THIS MANAGEMENT PLAN

This SMP relates specifically to Lot 4 Musson Road and Lot 20 Rockingham Road, Henderson, WA (the 'Site' as identified in Table A and Figures 1 and 2.

This SMP is applicable to the Site in perpetuity or as long as subsurface constraints are present and which require ongoing monitoring, maintenance and management in accordance with this SMP (and any future revisions of this document).

This SMP shall also be implemented where one or more of the following scenarios apply:

1. Where the proposed area of subsurface disturbance coincides with a subsurface constraint.
2. Where known or suspected subsurface contamination has become accidentally exposed.
3. Where there is any other reason to believe the subsurface work area may be affected by contaminated soil or coincide with the ground gas passive ventilation system.

A Subsurface Controls Assessment Form is provided in Appendix 1 and should be consulted and used to guide activities which may intersect subsurface asbestos contaminated C&D material.

NOTE 2.	This SMP is a live document that is to be periodically reviewed and updated to reflect changes to Site conditions. Scenarios that may trigger SMP revision are outlined in Section 1.4.

1.4 SITE MANAGEMENT PLAN REVIEW AND REVISION

The recommended minimum target dates (or frequencies) at which this SMP will be subject to formal review and the personnel who will participate in the review are identified in Table B. The Site Owner will maintain records of any review. Additional information regarding roles and responsibilities in managing subsurface constraints is included in Section 5.

TABLE B: SITE MANAGEMENT PLAN REVIEW SCHEDULE

PARTICIPANTS	FREQUENCY	SCOPE
Site Owner in consultation with lease holders (as required e.g., incidents).	Annually	• Assess if the SMP is achieving its objectives. • Assess if the SMP is appropriate for the Site with respect to administrative controls e.g., Site identification information, Roles and Responsibilities appropriately allocated. • Assess if the SMP is appropriate for Site conditions i.e., alterations to any capping thicknesses, finished surfaces etc. • Assess if the SMP provides sufficient information to guide subsurface works based on for example a review of number, nature and repeatability of incidents recorded in relation to the implementation of the SMP. • Review non-compliances associated with this SMP and assess if amendments to the SMP are required. • Assess if inspection and maintenance schedules are appropriate. • Assess if amendments are required based on results of any environmental monitoring and audits. • Assess if amendments are required based on any corrective actions documented.

1. Changes to legislation, non-compliances, and incidents etc. which result potential risks to Site users, works or the environment should be addressed via an addendum / technical memorandum and circulated to all stakeholders (i.e., leaseholders) and the SMP updated at an appropriate time.
2. Roles and responsibilities are outlined in Section 5.

As indicated in Table B, the adequacy of the SMP may be assessed by reviewing the number, nature and repeatability of incidents recorded and may warrant revisions to the document. Table C outlines possible scenarios that may warrant revision of the SMP (in addition to the frequency established in Table B).

TABLE C: SITE MANAGEMENT PLAN REVISION SCHEDULE

SCENARIO	POTENTIAL SMP REVISIONS
Site identification information is altered e.g., lot number, area covered by this SMP.	Site and lot identification information updated throughout plan. All sections of the SMP should be reviewed for applicability to the revised Site area / information.
Subsurface contamination, warning barriers, thickness of capping layers or development is altered.	Relevant section of the SMP should be reviewed for accuracy and updated as required.
Identification of unexpected contamination[1]	Relevant section of the SMP should be reviewed for accuracy and updated as required.
Performance monitoring indicates the SMP is ineffective or incomplete.	Relevant section of the SMP should be reviewed for accuracy and updated as required.

1. Contingency measures for this scenario are detailed in Section 7.4.

1.5 REGULATORY FRAMEWORK

The target classification for the majority of the Site under the Contaminated Sites Act 2003 is 'Remediated for Restricted Use' with institutional controls e.g., SMP to be in place to manage the potential exposure to residual asbestos contaminated C&D material beneath the Site. As such, the implementation of this SMP is a legislative requirement for the Site.

1.6 INTERFACE WITH LEASE AGREEMENTS

This SMP should form part of a contractual agreement between the Site Owner and leaseholders of individual areas within the development so that the leaseholders are aware of subsurface conditions, constraints and management requirements in the event unplanned / unexpected subsurface disturbances are required to be undertaken. Leaseholders are directed under the SMP to report any evidence of wear and tear / potholing / damage to the asphalt surface / capping layer to the Site Owner promptly so it can be repaired.

2 DEVELOPMENT FRAMEWORK

The Site is located within Latitude 32, which is managed by the Hope Valley-Wattleup Redevelopment Act 2000. The Hope Valley-Wattleup Redevelopment Act 2000 provides for the development and redevelopment of certain land in the local government districts of Cockburn and Kwinana, to confer planning, development control and other functions in respect of that land, and for related purposes. DevelopmentWA were established to perform these functions under the Hope Valley-Wattleup Redevelopment Act 2000 in accordance with an approved Master Plan. It is understood that the Master Plan functions in a similar manner to a town planning scheme. Under the Master Plan the Site is within 'Precinct 7 – Northern Transport' and part of Development Area and Development Contribution Area VII. Under the Use Classes specified for Precinct 7, some industrial uses are not permit unless planning approval is granted:

- Industry (Extractive) – not permitted by the Master Plan.
- Industry (General, light and service) – not permitted unless the Western Australian Planning Commission (WAPC) has exercised its discretion by granting planning approval.
- Industry (Hazardous and rural) – not permitted unless the WAPC has exercised its discretion by granting planning approval after giving special notice in accordance with Clause 10.4.

In early 2012, the Western Australian Planning Commission (WAPC) delegated the authority for planning decisions back to the City of Kwinana and City of Cockburn. Therefore, development applications for the Site are now determined by the City of Cockburn.

2.1 DEVELOPMENT APPROVAL

It is understood that any short to medium term redevelopment proposals for the Site need to be temporary in nature i.e., no permanent built form is permitted, and proposed development levels are required to be approved by DevelopmentWA and the City of Cockburn.

Development application DA19/0695 – 3316540 was approved by the City of Cockburn on the 3 December 2019 allowing the Site Owner to undertake earthworks (which formed part of the remediation) and placement of hardstand to facilitate the use of the Site as a storage yard.

The following uses were also proposed in the Remediation Action Plan (RAP) prepared by Aurora Environmental (2019):

- Storage depot / laydown facility e.g., sea containers, demountables and construction / mining equipment etc.
- Temporary shelter domes constructed to provide under cover storage / work areas.
- The existing residential property on the western boundary of Lot 20, abutting Rockingham Road was proposed to remain and is intended to be used as a Site office.

Note: A DA for installation of up to 20 lightweight transportable silos which will be used to store grain, a weighbridge, demountable office and ablution facilities is currently pending but considered to be consistent the original proposed use in that the facilities to be installed are temporary (five-year proposal) and transportable onto, within (via fork-lifts and reach stacker) and off-site.

2.2 DEVELOPMENT RESTRICTIONS

On the basis of the remediation completed, and subject to the implementation of this SMP, it is concluded that the Site is suitable to be reclassified in accordance with the Contaminated Sites Act 2003 as 'Remediated for Restricted Use'. Restrictions are expected to comprise:

1. The Site is restricted to non-sensitive commercial / industrial uses.
2. The Site is required to operate in accordance with an SMP prepared specifically to address the identified constraints within the Site to ensure that the asbestos contaminated C&D material, ground gases and groundwater do not represent a potentially unacceptable risk to Site users.
3. The placement of a memorial on the certificates of title for the Site to notify of the presence of contamination issues and related restrictions.

With respect to restriction No. 1 above, DWER has indicated that the Site is restricted to non-sensitive land uses i.e., Site uses are currently restricted to those which are described and / or consistent with those in Section 2.1. This is due to the following:

- The eastern portion of the Site was previously quarried to depths of between 4m and 10m below original ground level (see Figure 3). The quarry was subsequently backfilled with C&D material. Whilst the available information indicates that the backfilling process was relatively controlled and subject to regular geotechnical (compaction) testing, there is limited information regarding the quality of the material from a contamination perspective.

  Consequently, whilst the potential for ground gases to be generated is likely low on the assumption that the material is largely inert (Type 1), it has not been investigated. On the basis that the proposed Site uses are classified 'non sensitive', the risk to Site users from ground gases is considered to be low, however if sensitive Site uses are proposed in the future, then an assessment of ground gases and the type of construction proposed may be required.

  Additionally, there is a landfill (Henderson Waste Recovery Park) adjacent to the east and northeast, which produces energy via methane extraction and flaring. Again, it is considered that the risk is low in the context of the non-sensitive Site uses permitted (as per Section 2.1). However, this neighbouring land use may trigger DWER / DoH to recommended contamination conditions requiring landfill gas assessment, and/or possibly other assessment, remediation or management on planning approvals.

- Groundwater quality may also be impacted as a result of the Sites historical filling activities. Groundwater quality beneath the Site has not been investigated to date however on the basis that the proposed Site uses are classified 'non sensitive', the risk is considered to be considered to be low. In accordance with DoH advice, if groundwater is being, or is proposed to be abstracted, analytical testing should be carried out to determine whether the groundwater is suitable for its intended use.

3 POST REMEDIATION SITE CONDITIONS AND CONSTRAINTS

The Site underwent a number of investigations between 2011 and 2013 as follows:

- Asbestos Investigation, Lot 4, Musson Road, Henderson, WA (July 2011) (Ace Environmental, 2011a)
- Asbestos Investigation, Lot 9 and Pt Lot 20, Rockingham Road, Henderson, WA (October 2011) (Ace Environmental, 2011b)
- Asbestos in Soil Investigation for Part Lot 4 Musson Road and Part Lot 20 Rockingham Road, Henderson, WA (February 2013) (Aurora Environmental, 2013a).
- Asbestos in Soil Investigation for Part Lot 4 Musson Road and Part Lot 20 Rockingham Road, Henderson, WA (August 2013) (Aurora Environmental, 2013b).

These investigations combined with some additional localised test pitting undertaken by Aurora in June 2019[1] were used to develop the remediation strategy which was presented in a Remediation Action Plan (RAP) prepared by Aurora in 2019. The Site was subsequently remediated between 2019 and 2021 using an in-situ contain strategy to manage asbestos contaminated C&D material onsite below a capping layer comprising 100mm of asphalt and 250mm of engineered sub-base (crushed concrete). This also served to cap the quarry area, however the potential for ground gases and groundwater impacts to be present cannot be ruled out.

The remediation completed was documented in a Site Remediation Validation (SRV) report prepared by Aurora Environmental in 2021. On the basis of the remediation completed, the Site is expected to be classified 'Remediated for Restricted Use' in accordance with the *Contaminated Sites Act 2003*. Identified and potential sources of contamination which are still applicable and which therefore necessitate restrictions being placed on the Site, are summarised in Table D.

[1] Not formally documented other than key observations presented in the Remediation Action Plan (RAP) (Aurora Environmental, 2019).

TABLE D: POST REMEDIATION SITE CONDITIONS AND CONSTRAINTS

SOURCE	LOT	AREA	EXPECTED SITE CONDITIONS	MANAGEMENT REQUIREMENTS
Pre-existing asbestos contaminated C&D material On-site	Lot 20	Areas A, B & C	• Asphalt (≈0.1m) • Engineered sub-base (≥0.25m) • Soils / material below the capping layer is not suspected to be contaminated based on the Site history, however no data available to demonstrate this.	1. Complete inspections & maintenance program as per this SMP. 2. Soils / material excavated from below the capping layer are not permitted to be reused as part of above the capping layer anywhere onsite unless it is subject to inspection and analysis to demonstrate its suitability for reuse.
	Lot 20	Area D	• Asphalt (≈0.1m) • Engineered sub-base (≥0.25m) • Pre-existing crushed C&D material which is contaminated with asbestos. • Tamala Sand / Limestone	
	Lot 20 / 4	Areas E & F	• Asphalt (≈0.1m) • Engineered sub-base (≥0.25m) • Pre-existing crushed C&D material which is contaminated with asbestos in various forms (ACM, AF and FA) (≈0.5-2m) • Sand used to cap former quarry (0.25-2m) • Backfilled Quarry (4-10m) (see below for additional information)	
	Lot 20	Area G	• Asphalt (stockpiled on surface) • Engineered sub-base (≥0.25m) • Pre-existing crushed C&D material which is contaminated with asbestos in various forms (ACM, AF and FA) (≈0.25-0.5m) • Previous investigations indicate the former quarry may have encroached into Area G (see Figure 3). The actual extent and depth of the quarry in this area is unconfirmed and should be assumed present unless investigation information demonstrates otherwise (see below for additional information).	

TABLE D: POST REMEDIATION SITE CONDITIONS AND CONSTRAINTS

SOURCE	LOT	AREA	EXPECTED SITE CONDITIONS	MANAGEMENT REQUIREMENTS
	Lot 4	Area H	• Asphalt (≈0.1m) • Engineered sub-base (≥0.25m) • Soils / material below the capping layer represent natural ground however as they have not been validated following removal of the pre-existing asbestos contaminated C&D (placed in Area F), no data available to demonstrate its quality.	
C&D material used to backfill quarry On-site	Lot 20 Lot 4	Area E, F & G	• Material buried within the former quarry comprised inert waste Type 1, largely C&D material including crushed concrete, bricks etc. Some plastic comprising ties used to hold pallets of bricks were identified during the June 2019 investigation, suggesting that the some of the waste buried onsite may have originated from skip bins on construction sites. • Potential for ground gases to be generated through the degradation of inert waste material (Type 1) is considered to be low but cannot definitively be ruled out as the contamination assessments undertaken to date have not a) investigated the quality of the material used to backfill the quarry included intrusive investigation of the inert landfill or ground gas.	1. Managing capping layer as per above. 2. Site uses restricted to non-sensitive (as per Section 2.1) unless ground investigation completed to assess risks or development design negates risk assessment. 3. Groundwater required to be tested to verify its suitability for the intended use.
Landfill (Henderson Waste Recovery Park) Off-site	-	-	-	

4 ENVIRONMENTAL SETTING

4.1 PUBLISHED GEOLOGY

The Site is underlain by Quaternary aged Tamala Limestone, which contains various proportions of quartz sand, fine to medium grained shell fragments and minor clayey lenses. The quartz sand varies from fine to coarse grained, but is predominantly medium grained, moderately sorted, sub angular to rounded and commonly stained with limonite. At the base of the Tamala Limestone, glauconite and phosphatic nodules derived from the Molecap Greensand are sometimes present. The Limestone contains numerous solution channels and cavities, particularly in the zone where the water table fluctuates and, in some areas, exhibits karst structures. The Tamala Limestone varies in thickness along the coastal plain depending mainly on topography but is known to have a maximum thickness of 110m. Underlying this unit at depth is the Kardinya member of the Osborne Formation, which is a Cretaceous aged formation of sandstones and shales (Gozzard, 1986).

4.1.1 Acid Sulphate Soils

The Quaternary sands derived from the Tamala Limestone underlying the Site are classified being low or no known risk of acid sulphate soils being present (DWER, 2019).

4.2 SITE-SPECIFIC FILL / SOIL PROFILES

Refer to Table D in Section 3.

4.3 HYDROGEOLOGY

According to DWERs Perth Groundwater Atlas1 (accessed April 2021), groundwater is indicated to be approximately 4 meters below ground level (m bgl) (equivalent to 1m Australian Height Datum [AHD]) along the western boundaries of Lot 4 and Lot 20 and 15m bgl in the eastern portion of Lot 4 / central portion of Lot 20 i.e., the highest topographic point within the Site. The superficial aquifer is indicated to be 26m in thickness. There is a groundwater abstraction bore in the west of Lot 4 which was previously used for dust suppression however this does not appear to be registered in the Water Information Reporting (WIR) database managed by DWER.

4.4 HYDROLOGY

The nearest surface water is Mount Brown Lake located approximately 350m southwest of the Site and groundwater flows to the west towards the Indian Ocean located approximately 2km west of the Site (see Figure 1 and 2).

4.5 SURROUNDING LAND USES

Surrounding land uses are summarised in Table E and identified in Figures 1 and 2.

TABLE E: SURROUNDING LAND USES

DIRECTION	LANDUSE
North and East of Lot 20	Land adjacent to the north and east of the Site is occupied by 'Henderson Waste Recovery Park' (920 Rockingham Road) which is a regional waste disposal and recycling facility operated by the City of Cockburn. The facility accepts commercial waste and bulk household items including timber, metal, E-waste, C&D waste, commercial waste, household items such as whitegoods, electronic equipment, furniture etc., domestic household hazardous waste, paint, innerspring mattresses, and asbestos. Domestic quantities of green waste (including branches and pruning suitable for mulching) are also accepted at the facility. The facility which includes a transfer station, weighbridge and reuse shop is open seven days a week. The facility extracts methane from decomposing waste to generate 3.195 megawatts which is used to power properties (approximately 3,300 at the time of reporting) via Synergy's main electricity grid.
North of Lot 4	There is a block of land between Lot 4 and Lot 20 (Lot 7, 11 Musson Road) which is largely vacant (former market garden) with a residential house in the southwest and a shed in the east. Whitfield leased this lot prior to the commencement of the remediation works and the house was as a consequence vacant for the duration of the redevelopment. Whitfield have recently (2021) purchased Lot 7 and intend to develop it in a manner similar to Lot 4 and 20. Lots 10 and 11, located west of Lot 7, are used as a caravan storage / parking facility. There is a house in the west of the facility which is understood to be used as commercial offices along with some sheds.
West	Rockingham Road is situated west of Lot 20 whilst Musson Road is situated west of Lot 4. There are approximately 6 lots west of Lot 4, between Musson Road and Rockingham Road. The northern most lot appears to be used for storage / laydown (sea containers / haulage trucks). One lot, approximately 20m southwest of Lot 4, comprises a residential property situated on the western side of the lot, i.e., furthest from the Site. The remainder of the lots appear to be vacant.
South	Land adjacent to the south of Lot 4 comprises vacant land, which was likely previously used as market garden.

5 STAKEHOLDERS, ROLES AND RESPONSIBILITIES

5.1 STAKEHOLDERS

Stakeholders for this SMP include:

- Whitfield (Site Owner)
- Leaseholders (various)
- Subcontractor engaged by the Site Owner or leaseholders, specifically those engaged to undertake subsurface disturbance work.
- Potential utility service providers:
  - Western Power
  - Water Corporation
  - ATCO
  - Telecommunications service providers e.g., National Broadband Network (NBN)
  - DevelopmentWA
  - City of Cockburn
  - Neighbouring commercial / industrial and residential properties as identified in Figure 2.

5.2 ROLES & RESPONSIBILITIES

The responsibilities under the SMP of parties involved in subsurface works in contaminated areas or depths are summarised in Table F. These responsibilities do not replace any other regulatory responsibilities of the parties in undertaking works at the Site and do not include all responsibilities.

TABLE F: ROLES AND RESPONSIBILITIES

ROLE	RESPONSIBILITIES
Site Owner	• Coordinate the implementation of the SMP. • Undertake reviews and revise this SMP as per Section 1.4. • Ensure that contractors working within the Site are aware of the SMP and associated procedures and the SMP is implemented. • Ensure that leaseholders are aware of the SMP including: - Requirement to notify the Site Owner of any wear & tear of the asphalt or damage to the capping layer. - Requirement to implement the SMP in the event of emergency e.g., damaged underground service. - Maintain records and documentation relevant to the SMP. - Ensure leaseholders and subcontractors are provided with current version of SMP and are appropriately briefed.

TABLE F: ROLES AND RESPONSIBILITIES

ROLE	RESPONSIBILITIES
	- Ensure SMP performance is monitored against nominated Key Performance Indicators (KPIs) and consider rectification works where required. - Approve or have approved HSPs, EMPs and SWMS, where applicable. - Implement environmental monitoring prescribed in this SMP. - Respond to environmental incidents. - Inform the nearby community of any disruptions that impact the community and respond to community complaints.
All leaseholders, sub-contractors and employees (including utility providers)	• Acknowledge and adhere to the requirements of the SMP. • Prepare applicable HSPs, EMPs and SWMS, as applicable. • Obtain approval from Site Owner to undertake works in accordance with task specific HSPs, EMPs and SWMS, as applicable (unless utilities owners are not required to obtain authorisation under legislation). • Manage works such that they are carried out in accordance with SMP protocols. • Refrain from any act that could put them or any other person at risk of exposure to contamination. • Confirm to Site Owner that works are / have being undertaken in accordance with procedures set out in SMP and provide the necessary documentation as prescribed in this SMP to demonstrate compliance. • All workers involved in the implementation of this SMP are required to be trained or suitably experienced in management of contaminated sites and familiar with the requirements of this SMP.

6 CAPPING LAYER MANAGEMENT

Maintaining the integrity of the capping layer is identified as critical to the success of the remediation and the following inspection schedule and maintenance program is expected to be adhered to.

TABLE G: CONTAMINATED SOIL – INSPECTION AND MAINTENANCE SCHEDULE

TASK	SCOPE	FREQUENCY	KEY PERFORMANCE INDICATORS
Inspection	1. Complete a surface inspection across the pavement surface in to identify areas of distress e.g., cracking, ravelling (loss of aggregate from asphalt surface) or potholing.	Every 3 months	Pavement surface across remains intact / competent. Embankments remain stable. Surface water directed away from embankments, towards stormwater basins.
	2. Complete an inspection of the embankments / batters around the perimeter and within the Site to identify any areas of erosion / washout / rilling of capping material.	Every 3 months and / or within 24hrs of significant[1] rainfall event.	
	3. Compete an inspection of the stormwater diversion bunds around and within the Site to identify any areas where stormwater is flowing over and down embankments rather than towards basins.	Every 3 months and / or within 24hrs or significant[1] rainfall event.	
Maintenance	Implement maintenance e.g., filling, patching / increasing stormwater diversion bunds / reinstatement of capping / stabilisation of embankments, as appropriate promptly (within 2 weeks) to prevent the area from deteriorating further.	As required, within 2 weeks.	

1. A 'significant' rainfall event is considered to be where 25mm or more rainfall occurs within a single 24hr period.

7 SUBSURFACE EXCAVATION MANAGEMENT

The following sections relate specifically to subsurface excavations and the management of contaminated soil underlying the warning barrier within the Site.

7.1 INTIAL ASSESSMENT

A step-by-step approach in using the SMP is outlined below. Further supporting information that may assist in determining whether works in a particular job location require control measures (i.e., implementation of the SMP) are appended including a Subsurface Controls Assessment Form (Appendix 1).

1. Identify the approximate location of proposed work or subsurface disturbance relative to the following supporting information:
    - Figure 3 and Table D: Identify the Area (A-H) and determine expected subsurface conditions.
    - Figure 4: Capping Thickness Information
2. Confirm:
    (a) whether the excavation will extend deeper than the capping layer; and / or
    (b) whether there is any other reason to believe contamination may be present.
3. If scenario 2a or 2b is applicable, then the implementation of the SMP is required prior to undertaking subsurface disturbance works.

Proceed to Section 7.2 for additional information.

4. Where scenarios described in (2) above are not applicable, there is no need to implement the SMP in undertaking the subsurface works. This should be formally documented by the Site Owner using a Subsurface Controls Assessment Form such as the example provided as Appendix 1.

This example form may be amended in the future to suit Operational Phase procedures.

4. If there is uncertainty regarding the potential for earthworks to progress below the capping layer, proceed to Section 7.2.

7.2 SUBSURFACE EXCAVATION PROCEDURES

Subsurface excavations procedures are summarised in Table H.

TABLE H: SUBSURFACE EXCAVATION PROCEDURES

STEPS		
Step 1.	Notification	The permission of the Site Owner must be obtained by contractors prior to undertaking subsurface activities. The Site Owner will require information on the nature of the proposed activity and its location with employees and contractors required to complete the Subsurface Controls Assessment Form (Appendix 1).
Step 2.	Plan Preparation	Prior to any intrusive activities the method of works shall be pre-planned so that risks to Site workers, the public and the environment are minimised. Appropriate Site preparations will include, at a minimum, the development of a SWMS and a HSP by the person / sub-contractor tasked with undertaking subsurface excavations. Depending on the scale of subsurface disturbance it may also be appropriate for the Contractor to prepare a task-specific Environmental Management Plan (EMP) as assessed in consultation with the Site Owner. Minimum requirements for the SWMS, HSP and EMP are summarised below. • The SWMS, HSP and EMP shall be in accordance with regulatory and industry institutional standards including but not limited to those standards contained under the Australian Standard series and International Organisation for Standardisation (ISO). • The SWMS shall discuss the objectives and order of the works, the equipment and procedures to be adopted and the potential for exposure. • The HSP shall take into consideration the health risks associated with the hazard and will include, as a minimum, the supply of appropriate personal protective equipment (PPE) for personnel undertaking the work (including respirators/dust masks). The HSP shall also include dust control measures to protect site users and the public. • The EMP should include soil, water, waste, noise and dust management, monitoring and emergency response. • The above documents should be consistent with the minimum requirements proposed in the following sections of this SMP.
Step 3.	Induction	Prior to intrusive works on the Site, all personnel involved with Site works shall be given a Site induction by a suitably qualified person who has, as a minimum, read and understood this SMP and the associated risks at the Site.
Step 4.	Access	The work area shall be cordoned-off with suitable barriers if there is a risk to other contractors or the public from entering. As a minimum, unauthorised personnel must be restricted from entering the boundaries of the work area.

TABLE H: SUBSURFACE EXCAVATION PROCEDURES

STEPS		
		All barriers are to remain in place until intrusive works have been completed and all contaminated soil has been reinstated or removed off site and capping has been reinstated. Where possible, the number of personnel working in an impacted area shall be kept to a minimum.
Step 5.	Personal Protective Equipment (PPE)	All personnel working within the Site must wear the appropriate PPE as prescribed in the SWMS and/or HSP. Task-specific PPE may be required depending on the nature of the subsurface task being performed and may exceed the recommended minimum PPE requirements specified below. The need for such PPE should be considered in the preparation of a HSP. The HSP should detail correct procedures for donning and removing PPE as well as appropriate PPE disposal (see Table I for waste management). It is expected that PPE will be worn in all situations where there is a potential risk of exposure to contaminated soil. PPE recommended for excavations below the capping layer comprise task specific PPE plus: • Disposable gloves • P2 level disposable dust mask • Disposable coveralls (if there is the potential for direct contact with the soil below the warning barrier e.g., working in an excavation)
Step 6.	Capping Material Excavation and Stockpiling	The following steps relate to the excavation and stockpiling of capping material. • Follow Subsurface Access Procedures to confirm subsurface conditions applicable to the work area. In case of any doubt, the Site Owner should be consulted. • Capping material should be excavated and stockpiled in a designated area on hardstand or 'clean' surface to prevent cross contamination. • Capping material stockpiles should be clearly labelled to identify as 'Clean' but also dampened down to minimise dust generation. • Whilst the capping thickness (engineered sub-base layer) is expected to be >250mm, to avoid over excavating and cross contaminating capping material, all material below 200mm (from top of the engineered sub-base) is required to be assumed

TABLE H: SUBSURFACE EXCAVATION PROCEDURES

STEPS		
		to be potentially contaminated unless the material is sampled and analysed by a NATA accredited laboratory for asbestos. This approach is required to be adopted on the basis that: a) In some areas (e.g., Area D, E and F) the capping layer is underlain by pre-existing C&D material and it may not be possible to reliably visually differentiate between the two different types. In Area H, the pre-existing C&D material was largely removed to expose sand / limestone, however this surface was not validated and as it was previously in direct contact with contaminated material the potential for some residual asbestos fibres / fibre bundles / ACM to be present cannot be ruled out and it must be handled as contaminated unless laboratory data demonstrates otherwise. b) The pre-existing C&D material was confirmed to be contaminated by asbestos in a variety of forms including free fibres / fibre bundles which will not be visible in the material. c) All care must be taken to not compromise the quality of the capping layer which is critical to the ongoing operation of the Site. Failure to do so may result in the Site being reclassified 'Contaminated – Remediation Required' and the Site being unsuitable for until remediated again.
Step 7.	Contaminated Soil Excavation and Stockpiling	The following minimum requirements apply to the excavation and stockpiling of contaminated soils excavated from below the capping layer. • Contaminated material stockpiles should be temporary in nature only. • Contaminated soil should be stockpiled on an impermeable liner, such as high-density polyethylene (HDPE) and bunded to protect against any surface water run-off. • Stockpiles of contaminated material shall be placed away from any nearby sensitive receptors including stormwater basins and preferably down-wind of the work / excavation area. • Stockpiles of contaminated material are required to be covered and/or dampened down to minimise dust generation. Excessive spraying of stockpiles with water may lead to contaminated surface water run-off and therefore water must be applied in a carefully regulated manner. • Stockpiles of contaminated material should be clearly identified with signage and cordoned off from the wider Site. • If stockpiles of contaminated material are required to be left overnight, where practicable, the stockpile should be covered (e.g., tarp) and the covering secured. Consideration should also be given to placing the soils directly into a skip bin which

TABLE H: SUBSURFACE EXCAVATION PROCEDURES

STEPS		
		can be covered, as a means to manage the material, particularly if the material is expected to be disposed of off-site. All material required to be disposed of off-Site should be characterised in accordance with Landfill Waste Classification and Waste Definitions 1996 as amended 2019 (DWER, 2019). • Contaminated soil surplus to Site requirements shall follow the correct waste disposal procedures, as detailed in Table I. • Further advice may be required from the Environmental Consultant / Advisor with regard to requirements for contaminated soil / material management and public air quality monitoring with consideration given to the scope and location of works.
Step 8.	Decontamination Requirements	Machinery which has come into contact / excavated material from below the capping layer must be decontaminated prior to handling clean material. The machine should be washed down using running water (garden hose) and scrubbing brush. To remove any adhered asbestos. The sediments and wash water must be handled as contaminated (unless data demonstrates otherwise). The wash water is permitted to fall into the open excavation e.g., onto pre-existing asbestos contaminated C&D material and subsequently covered / capped.
Step 9.	Excavation Reinstatement	The following steps relate to the reinstatement of the excavation. • Once works in the contaminated soils have been completed, the capping material shall be completely restored to original levels (where the design permits) and the work area left clean. • Contaminated materials may only be reinstated below the warning barrier where there are no underground utilities, infrastructure. • Any changes to the nature and extent of the capping layer shall be noted and the applicable content of the SMP updated accordingly. • Reinstated contaminated soils must also meet the relevant compaction standards i.e., geotechnical requirements, as specified by the Site Owner.

NOTE 3.	At no stage shall material from below the capping layer be used as capping above the warning barrier when reinstating excavations. If excavated contaminated material is surplus to backfill requirements or cannot be reinstated for other reasons, then the soil must be disposed in the correct manner prescribed in Table I and suitable material should be used to backfill the excavation (see Table I).

7.2.1 Additional Management Controls

Excavations which extend below the warning barrier will also need to be managed with respect to the following (see Table I).

TABLE I: ADDITIONAL MANAGEMENT CONTROLS

ACTIVITY / ASPECT	MANAGEMENT CONTROLS
Installation of New Underground Utilities	Where the purpose of subsurface works is to install an underground utility/service and the proposed method of installation is trenching, it is assumed the bedding medium for the conduit will comprise sand. All sand imported to Site for use in utility trenches is required to meet the definition of Clean Fill as prescribed by DWER (2019) (see Appendix 2 for Clean Fill certification template required to be completed by suppliers). Given the nature (crushed concrete) and thickness of the capping layer (minimum of 250mm), it is expected that all future utilities are likely to be required to be placed below the capping layer to be sufficiently protected and the following procedures will therefore apply: **Option 1.** Lined trench • The utility trench shall be excavated, lined with warning barrier and backfilled to the base of the capping layer with Clean Fill such that there is permanent separation between the utility conduit surrounding contaminated soil. • The capping layer is then expected to be reinstated consistent with the surrounding capping profile i.e., minimum of 250mm of engineered sub-base and 100mm of asphalt (unless the excavation is in a future garden bed in which case, refer to information below). **Option 2.** Over-excavated trench • The utility trench shall be over excavated (0.5m either side and 0.25m below), backfilled to the surface with Clean Fill such that there is permanent separation between the utility conduit and surrounding contaminated soil / material. • This option is provided as based on Aurora's experience, it is difficult to line a trench effectively without compromising the future integrity of the capping layer along the alignment of the trench, when the surrounding area has already been capped and compacted. • The capping layer is then expected to be reinstated consistent with the surrounding capping profile i.e., minimum of 250mm of engineered sub-base and

TABLE I: ADDITIONAL MANAGEMENT CONTROLS

ACTIVITY / ASPECT	MANAGEMENT CONTROLS
	100mm of asphalt (unless the excavation is in a future garden bed in which case, refer to information below). **Option 3**. Horizontal Boring • Depending on the nature of the utility, the Site Owner may choose to undertake horizontal boring or other methodologies less intrusive than open excavations. • It is possible that this methodology will similarly disturb contaminated C&D material, depending on the alignment and depth of the bore. • Surplus soil generated from horizontal boring should be treated as contaminated (including asbestos) and verified as by the Environmental Advisor through Site inspections, sampling and laboratory analysis, where necessary to determine its disposal / reuse options. All Options: The 'as-constructed' information for the trench including, location, alignment, depth etc. is required to be recorded and issued in conjunction with the SMP as an addendum (as a minimum) or incorporated to a new/ subsequent version of the SMP. **NOTE 4.** Utility asset owners such as ATCO, Western Power, Water Corporation etc. are required to follow these requirements.
Dust	• Excavation works have the potential to generate dust which is required to be managed in accordance with 'a Guideline for Managing the Impacts of Dust and Associated Contaminants from Land Development Sites, Contaminated Sites remediation and other related activities (Department of Environment and Conservation [DEC], 2012). • All material below the capping layer should be assumed to contain asbestos possibly in the form of ACM, AF or FA and managed accordingly.
Soil Transport and Materials Handling Requirements	• Any trucks transporting contaminated material from Site are required to utilise the major road network avoiding environmental and socially sensitive areas such as local roads, primary schools, conservation areas, etc. as far as practicable. • Where any soils / material from below the capping layer require disposal offsite, the following management measures should be implemented: - All trucks must be roadworthy and comply with statutory requirements. - All trucks must be operated by appropriately licensed personnel. - All trucks must be fitted with sealed tailgates and "Envirotarps" or equivalent to prevent the leakage or windblown loss of soils during transit. - All trucks must hold a description of the soils in transit, plus contact details and procedures to be applied in the event of an emergency. - In the event of vehicle incident resulting in lost load the driver is to immediately advise emergency services of incident and nature of material in transport without delay. Driver must also advise the Site Owner.

TABLE I: ADDITIONAL MANAGEMENT CONTROLS

ACTIVITY / ASPECT	MANAGEMENT CONTROLS
	• All material required to be disposed of off-Site should be characterised in accordance with Landfill Waste Classification and Waste Definitions 1996 as amended 2019 (DWER, 2019). • All disposable PPE used during the works (e.g., P2 masks, gloves, coveralls) should be disposed of as asbestos contaminated waste (Special Waste – Type I).
Geofabric Requirements	• If a trench is proposed to be lined with warning barrier, the product selected must meet the following performance requirements (as per DoH [2009]): - Be water permeable, highly visible, resistant to degradation, chemically inert and have a high tensile strength. - Placement of each section should be conducted so that sections are either fixed together or overlapped by a minimum 200 mm.
Surveying Requirements	• No reduction in the capping layer thickness is permitted, unless a fully impermeable barrier (e.g., concrete slab) is being placed. • Any changes to the capping thickness need to be captured via manual measurement and Figure 4 updated and included in the SMP.
Capping Medium Requirements	• Granular fill (e.g., sand for use in utility trenches) imported to must be meet the definition of 'Clean Fill' (DWER, 2019). • If additional capping material (engineered sub-base comprising crushed C&D) is required to be imported for ongoing maintenance of the capping layer, to demonstrate that the material being delivered to Site is suitable for the proposed use, the following assessment is required to be undertaken in accordance with 'Guidelines for Managing Asbestos at Construction and Demolition Waste Recycling Facilities' (DEC, 2011) at the producers site i.e. before the material is imported to the Site (this is generally consistent with the RAP (Aurora Environmental, 2019): 1. No visual evidence of ACM in the stockpile. 2. Collection of 500mL samples and laboratory analysis for asbestos in soil at a rate of 14 samples per 1,000m^3 of product (or 1 per 70m^3) (as per DoH, 2009). 3. No detectable concentrations of asbestos in soil (<0.001% w/w). 4. Assuming the material meets the assessment criteria above it is approved to be brought onto Site. The material is required to be visually inspected by the Site Owner upon arrival to verify it is consistent with information provided by the supplier. The Site Owner will retain the following records for all additional imported C&D material: - Laboratory analytical certificates (provided by supplier). - Photographs of material upon arrival. - Record of areas where the material was placed.

7.3 KEY PERFORMANCE INDICATORS

To evaluate the effectiveness of the SMP in meeting its objectives and as a tool for monitoring future areas of potential SMP applicability, Table J outlines KPI's that shall be integrated into the contaminated soil management strategy at the Site. Consistent with roles and responsibilities outlined in Section 5, it is ultimately the responsibility of the Site Owner to ensure SMP performance is monitored against the nominated KPIs.

TABLE J: KEY PERFORMANCE INDICATORS

PERFORMANCE INDICATOR	VERIFICATION	RESPONSIBLE PARTY
Site workers / contractors are aware of SMP and associated procedures	• Maintain a record of leaseholder notifications. • Maintain a record of Site inductions. • No incidents of uncontrolled exposure.	• Site Owner
No unregistered subsurface disturbances	• Maintain a subsurface disturbance register. • No incidents of uncontrolled exposure.	• Site Owner in the first instance. • Subsequently Employees, Sub-contractors, Leaseholders and Utility Owners by adhering to the SMP.
The necessary approvals are obtained, and plans endorsed prior to commencing works	• Maintain a subsurface disturbance register including signed Subsurface Access Control Form. • No incidents of uncontrolled exposure.	• Site Owner in the first instance • Subsequently Employees, Sub-contractors, Leaseholders by adhering to the SMP. • Subsequently Leaseholders by adhering to the SMP and lease contracts. • Subsequently Leaseholders by adhering to the information available on the publicly accessible Contaminated Sites Database and SMP.
Appropriate health and safety precautions are taken in performing works	• Task-specific SWMS, HSP, Asbestos Management Plan are prepared and incorporate SMP control procedures. • Appropriate PPE is worn.	• All parties by adhering to the SMP.
Any area of subsurface disturbance is appropriately	• Recorded inspection of capping layer and hardstand cover (where	• All parties by adhering to the SMP but ultimately required

TABLE J: KEY PERFORMANCE INDICATORS

PERFORMANCE INDICATOR	VERIFICATION	RESPONSIBLE PARTY
reinstated / integrity of capping layer is maintained	applicable) reinstatement and compliance with the SMP. • Where the nature and extent of the capping layer is altered, the warning barrier is re-surveyed and the SMP is updated accordingly.	to be verified by the Site Owner.
Appropriate environmental Management precautions are taken in performing works	• Where warranted, a task specific EMP / Asbestos Management Plan is prepared and incorporates SMP control procedures. • No environmental incidents (see below).	• All parties by adhering to the SMP but ultimately required to be verified by the Site Owner.
No unacceptable discharges or emissions or other environmental incidents	• Qualitative verified through an inspection of the works during and at the completion of works. • In some cases, environmental monitoring may be used to evaluate the performance of this KPI, as prescribed in the SMP. • Record any community complaints.	• All parties by adhering to the SMP but ultimately required to be verified by the Site Owner.
All surplus contaminated soil appropriately disposed of in accordance with the SMP.	• Provision of waste transfer and disposal dockets or other verification documentation as applicable.	• All parties by adhering to the SMP.
SMP remains suitable to the needs of subsurface disturbance work and Site conditions	• Works are implemented in accordance with the SMP. • SMP is updated as necessary.	• Site Owner.
Unexpected finds of contamination in capping layer are managed in accordance with this SMP	• Isolated fragments of ACM, if encountered are collected and disposed of appropriately and the incident and actions taken are documented in the Environmental Incident Form.	• All parties by adhering to the SMP but ultimately required to be managed by the Site Owner.

1. Examples of an unacceptable discharge or emission at this site may include discharge of groundwater effluent or entrainment of contaminated soil into the stormwater network, visible dust extending beyond site boundaries, uncontrolled off-site disposal of contaminated soil, or an unacceptable discharge or emission determined by other qualitative and/or quantitative means.

7.4 CONTINGENCIES

With the careful implementation of subsurface control measures outlined in this SMP, environmental incidents are unlikely to occur, however environmental incident response measures have been defined should any incidents arise. The minimum environmental incident response measures associated with subsurface contamination are summarised in Table K. Additional corrective actions may be necessary depending on the exact nature of the incident.

TABLE K: CONTAMINATED SOIL MANAGEMENT – INCIDENT RESPONSE MEASURES

INCIDENT	RESPONSE
Unregistered subsurface disturbance occurs	1. Stop work immediately. Site Owner to restrict access. 2. Where the SMP control measures are confirmed as applicable, ensure such control measures are implemented prior to proceeding with works. 3. Document the unregistered subsurface disturbance through the completion of an Environmental Incident Form and identify and rectify root cause factors including revision of SMP if required. 4. Complete works in accordance with this SMP.
Identification of unexpected contamination or type of contamination	1. Stop work immediately. Restrict access. Notify the Site Owner. 2. Where subsurface conditions are found to be inconsistent with the documented conditions, obtain advice from the Site Owner prior to proceeding with works. 3. Document the subsurface inconsistency through the completion of an Environmental Incident Form. 4. Undertake works in accordance with this SMP. 5. Site Owner to initiate review and revision of SMP to reflect actual ground conditions.
Subsurface contamination becomes accidentally exposed	1. Restrict access. Notify Site Owner (if 3rd party reporting the issue). 2. Site Owner to undertaken repairs / maintenance. 3. Site Owner to document the accidental exposure of subsurface contamination through the completion of an Environmental Incident Form. 4. An assessment should be undertaken by the Site Owner to identify why subsurface contamination has become exposed and the root cause rectified including revision of SMP if required.
Non-conformance with SMP control measures	1. Stop work immediately. Site Owner to confirm worker is aware of the SMP and its requirements. 2. Ensure worker completes work in accordance with the SMP or engage an alternative sub-contractor to complete works. 3. In consultation with the Site Manager identify whether additional work is necessary as a result of the non-conformance. 4. Document the SMP non-conformance through the completion of an Environmental Incident Form.

TABLE K: CONTAMINATED SOIL MANAGEMENT – INCIDENT RESPONSE MEASURES

INCIDENT	RESPONSE
	5. An assessment should be undertaken by the Site Owner to identify why the SMP non-conformance occurred, depending on which identify whether SMP improvement is warranted.
Unacceptable Site emission/discharge event	1. Stop work immediately, restrict access and contain discharge or emission where possible. 2. Where the Site emission or discharge represents an immediate and significant environmental hazard, immediately notify the relevant emergency and / or regulatory departments. 3. Notify the Site Owner (if 3rd party reporting the issue). 4. Document the unacceptable emission/discharge through the completion of an Environmental Incident Form. 5. An assessment should be undertaken by the Site Owner to identify why the unacceptable site emission/discharge occurred, depending on which identify whether SMP improvement is warranted.
The SMP does not appear to address the type of work proposed (and associated contamination risks) or other subsurface restrictions that may arise.	1. Notify the Site Owner for advice prior to commencing the works. 2. Task-specific procedures may need to be developed and ultimately the SMP may need to be revised.
Community complaint	1. Document the community complaint through the completion of an Environmental Incident Form and notify the Site Owner (if 3rd party reporting the issue). 2. Site Owner to investigate the community complaint and whether works are being completed in accordance with the SMP. 3. An assessment should be undertaken by the Site Owner to identify why the community member(s) was distressed, depending on which, identify whether SMP improvement is warranted.
Fragment(s) of ACM identified in capping layer (above warning barrier)	Implement Unexpected ACM Find Procedure as follows: 1. Isolate the fragment from mobile plant / vehicles, as required. 2. The fragment(s) should be carefully picked up, placed in a heavy duty plastic bag (or double layer of plastic 'sandwich bag') or wrapping and taken to a suitable landfill or Local Government asbestos collection point. This should not be does as promptly as possible especially if there is the possibility of the material being disturbed or damaged such as by vehicles. 3. Disposable or washable rubber gloves and good personal hygiene are sufficient for collecting isolated fragments of ACM. 4. The surrounding surface area should be visually inspected to ensure there are no additional co-located fragments. 5. Document the ACM find and management through the completion of an environmental incident report.

1. Examples of an unacceptable discharge or emission at this site may include discharge of groundwater effluent or entrainment of contaminated soil into the stormwater network, visible dust extending beyond site boundaries, uncontrolled off-site disposal of contaminated soil, or an unacceptable discharge or emission determined by other qualitative and/or quantitative means.

8 REPORTING

The following minimum performance monitoring and reporting mechanisms should be implemented at the Site indefinitely:

1. A register shall be maintained by the Site Owner (via a permitting system or similar) documenting subsurface access notifications, registration/induction of workers conducting subsurface works and any subsurface disturbance works that take place.
2. A register shall be maintained by the Site Owner documenting 3-monthly Site inspections.
3. All subsurface disturbance works shall be inspected by Site Owner or nominated representative to ensure Site workers are implemented in accordance with the SMP control measures. In particular, the excavation shall be inspected prior to backfill to ensure correct reinstatement of capping material, as applicable.
4. The SMP shall be updated to reflect any changes in the nature and extent of contamination in the subsurface and associated physical barriers.
5. All waste management documentation which may include for example waste transfer dockets, landfill receipts and groundwater effluent disposal receipts, shall be reviewed for completeness and consistency and retained on file.
6. The Site Owner will initiate environmental sampling and monitoring works as required and document these actions.
7. Where an environmental incident occurs, an Environmental Incident and Hazard Form (see Appendix 3) shall be completed and retained on file. Each incident should be investigated and where the control measures defined in the SMP are found to be inadequate or no longer appropriate, the SMP shall be revised by the Site Owner.
8. The suitability and performance of the SMP against the nominated KPIs should be initially reviewed after a period of no more than five years following implementation by the Site. The SMP may be revised earlier than this date for example where the SMP is found to not adequately address Site conditions.

9 REFERENCES

Ace Environmental (2011a) Asbestos Investigation, Lot 4, Musson Road, Henderson, WA. Report reference: J011-009.01, dated July 2011.

Ace Environmental (2011b) Asbestos Investigation, Lot 9 and Pt Lot 20, Rockingham Road, Henderson, WA. Report reference: J011-009.02, dated October 2011.

Aurora Environmental (2013a) Asbestos in Soil Investigation for Part Lot 4 Musson Road and Part Lot 20 Rockingham Road, Henderson, WA 6166. AP2012/104, Version 3, dated February 2013.

Aurora Environmental (2013b) Asbestos in Soil Investigation for Part Lot 4 Musson Road and Part Lot 20 Rockingham Road, Henderson, WA 6166. AP2013/087, Version 2, dated August 2013.

Aurora Environmental (2014b) Asbestos Remediation Management Plan, Lot 4 Musson Road and Lot 20 Rockingham Road, Henderson, WA. Report reference: AP2013-171, Version 4, dated 26 November 2014.

Aurora Environmental (2019) Remediation Action Plan, Lot 4 Musson Road and Lot 20 Rockingham Road, Wattleup, WA. Report reference: AP2019-287, V4, 4 November 2019.

Aurora Environmental (2021) Site Remediation Validation Report, Lot 4 Musson Road and Lot 20 Rockingham Road, Wattleup, WA. Report reference: AP2021-173, V1, 11 May 2021.

Department of Environment and Conservation (DEC) (2011) A Guideline for Managing the Impacts of Dust and Associated Contaminants from Land Development Sites, Contaminated Sites Remediation and other Related Activities. March 2011.

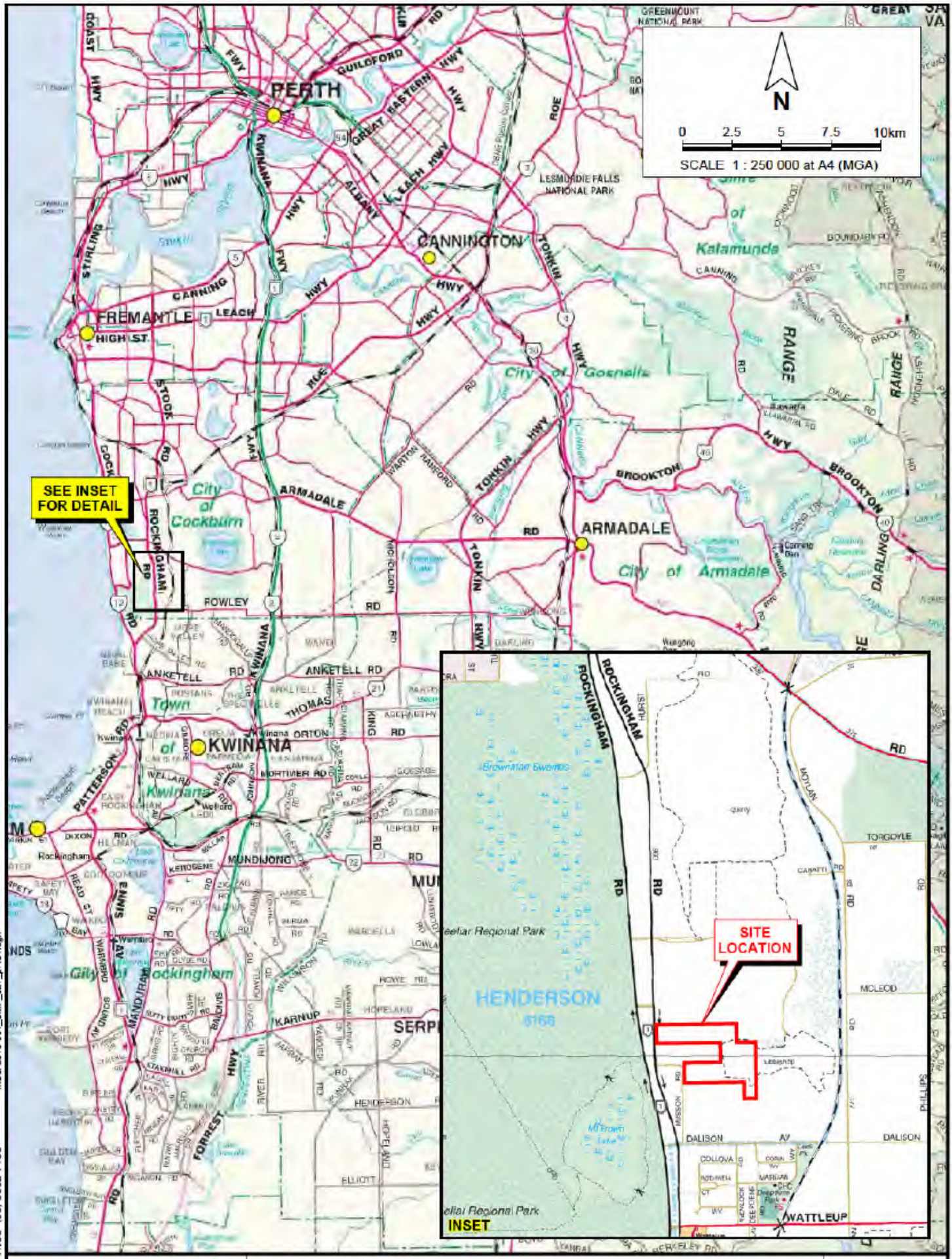
Department of Health (DoH) (2009) Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia.

Department of Water and Environmental Regulation (DWER) (2019) Landfill Waste Classification and Waste Definitions 1996 (as amended December 2019).

Department of Water and Environmental Regulation (DWER) (2019) Acid Sulphate Soil Risk Map, Swan Coastal Plain, available at: https://nationalmap.gov.au/.

Gozzard J.R. (1986) Perth, Sheet 2034 II and part 2034 III and 2134 III. Perth Metropolitan Region Environmental Geology Series, Geological Survey of Western Australia.

FIGURES



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Whitfield Court Pty Ltd
SITE MANAGEMENT PLAN
LOT 4 MUSSON ROAD AND LOT 20 ROCKINGHAM ROAD, HENDERSON, WA

Figure 1

SITE LOCATION

Drawn: [redacted] | Date: 17 May 2021 | Job: MSG2018-001

PINPOINT CARTOGRAPHICS (08) 9562 7136 MSG-2018-001_SMP_027_p+01.dgn

Commercial/Industrial
(C&D Recycling and Green Waste Storage Facility)

Commercial
(Laydown/Storage Yard)
(Owned by Whitfield Court Pty Ltd)

9

Landfill

2

N

0 20 40 60 80 100m

SCALE 1 : 2 000 at A3 (MGA)

Legend

Site Boundary

Cadastral Boundary

Former House

Commercial
(Laydown/Storage Yard)

6 440 250mN

Lot 20

10

Commercial

Commercial
(Future Laydown/Storage Yard)
(Owned by Whitfield)

7

Shed

11

Commercial

Former House

235

ROCKINGHAM

MUSSON

Commercial
(Laydown/Storage Yard)

Lot 4

Beeliar Regional Park

ROAD

1

Commercial

2

Vacant

ROAD

Green Waste Recycling Facility

3

Residential

6 440 000mN

3

Vacant

4

Vacant

Mt Brown Lake

386 600mE

386 750mE

8

2

6

Vacant

14

15

7

Residential

CADASTRAL SOURCE: Landgate, July 2019.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown October 2020.

PINPOINT CARTOGRAPHICS (08) 9562 7136 MSG-2018-001_SMP_027_p1-002.dgn

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Drawn: [redacted] Date: 17 May 2021

Whitfield Court Pty Ltd
SITE MANAGEMENT PLAN
LOT 4 MUSSON ROAD AND LOT 20 ROCKINGHAM ROAD, HENDERSON, WA

SITE IDENTIFICATION

Figure 2

Job: MSG2018-001

N

0 20 40 60 80 100m

SCALE 1 : 2 000 at A3 (MGA)

Legend

- Site Boundary
- Cadastral Boundary
- Indicative Boundary of Former Quarry
- (4m) Approximate Depth of Former Quarry Below Surrounding Surface Level

Area A
Area B
Area C
Area D
Area E
Area F
Area G
Area H
(4m)
(10m)
Lot 20
Lot 4
ROCKINGHAM ROAD
MUSSON ROAD
6 440 250mN
6 440 000mN
386 250mE
386 500mE
386 750mE
9
10
11
7
1
2
3
4
6
14
15
8
235

CADASTRAL SOURCE: Landgate, July 2019.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown May 2019.

Aurora environmental
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Drawn [redacted] | Date: 17 May 2021

Whitfield Court Pty Ltd
SITE MANAGEMENT PLAN
LOT 4 MUSSON ROAD AND LOT 20 ROCKINGHAM ROAD, HENDERSON, WA

PROPOSED REMEDIATION AREAS

Figure 3

Job: MSG2018-001

MSG-2018-001_SMP_027_pH-03.dgn
PINPOINT CARTOGRAPHICS (08) 9662 7136

N

0 20 40 60 80 100m

SCALE 1 : 2 000 at A3 (MGA)

Legend

- Site Boundary
- Cadastral Boundary
- Drainage Basin
- Engineered Sub-Base Thickness Verification Location
- 281 Engineered Sub-Base Thickness in millimetres
- Engineered Sub-Base Compaction Test location
- Soil Validation Location

283 265 272 278 273
287 271 268 280 280
252 267 272 281 269
Basin 1
Basin 2
Lot 20
Basin 3
277 276 269
274 271
278 281 261
283
V4 V3 V2 V1
277 272 281
281
267 270 287
Lot 4
261 249 255
255 265
Basin 4
285 258 280 262
MUSSON ROAD
ROAD
6 440 250mN
6 440 000mN
386 250mE
386 500mE
386 750mE
235

Note:
Engineered sub-base capping thickness measurements presented exclude 100mm (minimum) asphalt subsequently placed.

Capping thickness verified by DR onsite by manual measurement during works.

CADASTRAL SOURCE: Landgate, July 2019.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown October 2020.

Aurora environmental
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Drawn: [redacted] Date: 17 May 2021

Whitfield Court Pty Ltd
SITE MANAGEMENT PLAN
LOT 4 MUSSON ROAD AND LOT 20 ROCKINGHAM ROAD, HENDERSON, WA

ENGINEERED SUB-BASE VERIFICATION

Figure 4

Job: MSG2018-001

PINPOINT CARTOGRAPHICS (08) 9662 7136 MSG-2018-001_SMP_027_p-004.dgn

N

0 20 40 60 80 100m

SCALE 1 : 2 000 at A3 (MGA)

Legend

- Site Boundary
- Cadastral Boundary
- Drainage Basin
- Diversion Bund
- Surface Water Flow Direction

Basin 1

Basin 2

Basin 3

Lot 20

Basin 4

Lot 4

MUSSON ROAD

ROAD

6 440 250mN

6 440 000mN

386 250mE

386 500mE

386 750mE

CADASTRAL SOURCE: Landgate, July 2019.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown October 2020.

PINPOINT CARTOGRAPHICS (08) 9662 7136 MSG-2018-001_SMP_027_pl-005.sgn

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Whitfield Court Pty Ltd
SITE MANAGEMENT PLAN
LOT 4 MUSSON ROAD AND LOT 20 ROCKINGHAM ROAD, HENDERSON, WA

Figure 5

STORMWATER MANAGEMENT

Drawn [redacted] Date: 17 May 2021 Job: MSG2018-001

APPENDIX 1

Subsurface Controls Assessment Form

SUBSURFACE CONTROLS ASSESSMENT FORM

LOT 4 MUSSON ROAD & LOT 20 ROCKINGHAM ROAD

This assessment form is required to be issued by Whitfield Court Pty Ltd to all contractors prior to undertaking subsurface works.

TO BE COMPLETED BY SITE OWNER (Whitfield Court Pty Ltd)

SECTION 1.

Name:		**Date:**	**Work Permit Number:**
PLANNNING PHASE (to be completed following return of completed form)		**REVIEW PHASE** (to be completed following completion of works)	
Completed form returned and reviewed	☐	**Works confirmed to have been completed as per scope of work**	**Yes** ☐ **No** ☐
Supporting documentation e.g. task specific Safe Work Method Statement provided by subcontractor and reviewed	☐	**Completion Documentation Provided by Subcontractor** (e.g. waste disposal dockets, occupational monitoring results recorded during works).	**Yes** ☐ If Yes, state which documents: **No** ☐ **NA** ☐
Approval to proceed issued:	**Yes** ☐ **Date:** **No** ☐ **If No, state reason(s):**	**SMP Revision Required?** If Yes, state which Section(s).	**Yes** ☐ **No** ☐ **NA** ☐
		Additional Notes / Relevant Information:	

TO BE COMPLETED BY CONTRACTOR PRIOR TO UNDERTAKING SUBSURFACE WORKS

SECTION 2. Description of Works		
	Company information:	
	Purpose of Works:	
	Program:	Start Date: Completion Date: Duration:
	No. Personnel Required:	
	Machinery to Be Used:	
	Approx. Area of Disturbance (m^2):	
	Depth of Disturbance (m below surface):	
	Other Permits / Controls Applicable to Works:	Specify:
Additional Notes / Relevant Information:		

SECTION 4.

Acknowledgement of Presence of Contamination

- The Site (lot 4 and Lot 20) is known to be contaminated and is classified as Remediated for Restricted Use' under the Contaminated Sites Act 2003.
- The contamination present comprises asbestos impacted construction and demolition material which was previously used as fill.
- Asbestos is present in the form to asbestos containing material (ACM) (e.g. cement bonded fragments of fencing / roofing, pipes, utility pit lids, 'tilux' (wet-area fibrous asbestos cement sheet) and as asbestos fines (free asbestos fibres and fibrous debris).
- The contamination has been capped (see table below) and this capping layer must be protected.
- All works undertaken within the Site, must be done so in strict accordance with the Site Management Plan.
- **DO NOT PROCEED WITH ANY WORKS UNTIL THE YOU HAVE READ AND UNDERSTOOD THE REQUIREMENTS OF THE PLAN.**

AREA	EXPECTED GROUND CONDITONS	MANAGEMENT ACTIONS
Areas A, B and C	• Asphalt (≈0.1m) • Engineered sub-base (recycled concrete) (≥0.25m) • Soils /material below the capping layer is not suspected to be contaminated based on the Site history, however no data available to demonstrate this.	1. Undertake work as per SMP. 2. Soil / material below the engineered sub-base is not permitted to be reused without inspection and laboratory analysis to demonstrate their suitability for reuse.
Area D	• Asphalt (≈0.1m) • Engineered sub-base (≥0.25m) • Pre-existing crushed C&D material which is contaminated with asbestos in various forms (cement bonded and free fibres) (≈0.5m) • Tamala Sand / Limestone	
Areas E & F	• Asphalt (≈0.1m) • Engineered sub-base (≥0.25m) • Pre-existing crushed C&D material which is contaminated with asbestos in various forms (cement bonded and free fibres) (≈0.5-2m) • Sand (brown) used to cap former quarry (0.25-2m) • Backfilled Quarry (4-10m).	
Area G	• Asphalt (≈0.1m) • Engineered sub-base (≥0.25m) • Pre-existing crushed C&D material which is contaminated with asbestos in various forms (cement bonded and free fibres) (≈0.5-2m) • Previous investigations indicate the former quarry may have encroached into Area G (see Figure 3 of SMP). The actual extent and depth of the quarry in this area is unconfirmed and should be assumed present unless investigation information demonstrates otherwise.	
Area H	• Asphalt (≈0.1m) • Engineered sub-base (≥0.25m) • Soils / material below the capping layer represent natural ground however as they have not been validated following removal of the pre-existing asbestos contaminated C&D (placed in Area F), no data available to demonstrate its quality.	
Area E, F & G	• Material buried within the former quarry comprised inert waste Type 1, largely C&D material including crushed concrete, bricks etc. Some plastic comprising ties used to hold pallets of bricks were identified during the June 2019 investigation, suggesting that the some of the waste buried onsite may have originated from skip bins on construction sites. • Potential for ground gases to be generated through the degradation of inert waste material (Type 1) is considered to be low but cannot definitively be ruled out as the contamination assessments undertaken to date have not a) investigated the quality of the material used to backfill the quarry included intrusive investigation of the inert landfill or ground gas.	1. Managing capping layer as per above. 2. Site uses restricted to non-sensitive (as per Section 2) unless ground investigation completed to assess risks or development design negates risk assessment. 3. Groundwater required to be tested to verify its suitability for the intended use.

- All subcontractors intending to access the Site are required to undertake the necessary risk assessment to determine the level of PPE required for their employees in accordance with their internal policies and procedures but are expected to adhere to the PPE recommended in the SMP as a minimum.
- Additional information issued by the Department of Health is available here: https://ww2.health.wa.gov.au/Articles/A_E/About-asbestos

I acknowledged the information provided regarding the contamination present within the Site and will take appropriate steps to adhere to the SMP and:

a) include the necessary risk management controls in safe work method assessment / job safety analysis (to be submitted to Site Manager with this form):
b) inform personnel under my direction of the nature of the contamination present and the associated risks;
c) ensure all personnel are wearing the appropriate PPE during the works;
d) ensure all PPE is disposed of appropriately;
e) minimise disturbance of soils to the extent practical;
f) protect the capping layer from underlying contamination;
g) rectify any cross contamination issues to the extent required;
h) seek guidance from the Site owner and an experienced environmental scientist as required.

Site Supervisor Signature:

Date:

N

0 20 40 60 80 100m

SCALE 1 : 2 000 at A3 (MGA)

Legend

- Site Boundary
- Cadastral Boundary
- Indicative Boundary of Former Quarry
- (4m) Approximate Depth of Former Quarry Below Surrounding Surface Level

Area A
Area B
Area C
Area D
Area E
Area F
Area G
Area H
(4m)
(10m)
Lot 20
Lot 4
ROCKINGHAM ROAD
MUSSON ROAD
6 440 250mN
6 440 000mN
386 250mE
386 500mE
386 750mE
9
10
11
7
1
2
3
4
6
14
15
8
235

CADASTRAL SOURCE: Landgate, July 2019.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown May 2019.

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Drawn [redacted] | Date: 17 May 2021

Whitfield Court Pty Ltd
SITE MANAGEMENT PLAN
LOT 4 MUSSON ROAD AND LOT 20 ROCKINGHAM ROAD, HENDERSON, WA

PROPOSED REMEDIATION AREAS

Figure 3

Job: MSG2018-001

MSG-2018-001_SMP_027_pH-03.dgn
PINPOINT CARTOGRAPHICS (08) 9662 7136

N

0 20 40 60 80 100m

SCALE 1 : 2 000 at A3 (MGA)

Legend

- Site Boundary
- Cadastral Boundary
- Drainage Basin
- Engineered Sub-Base Thickness Verification Location
- 281 Engineered Sub-Base Thickness in millimetres
- Engineered Sub-Base Compaction Test location
- Soil Validation Location

Basin 1
Basin 2
Basin 3
Basin 4
Lot 20
Lot 4
MUSSON ROAD
ROAD

283 265 272 278 273
287 271 268 280 280
252 267 272 281 269
277 276 269
274 271
277 272 281 281
267 270 287
274 278 281 261
283 V4 V3 V2 V1
261 249 255
255 265
285 258 280 262

6 440 250mN
6 440 000mN
386 250mE
386 500mE
386 750mE

Note:
Engineered sub-base capping thickness measurements presented exclude 100mm (minimum) asphalt subsequently placed.

Capping thickness verified by DR onsite by manual measurement during works.

CADASTRAL SOURCE: Landgate, July 2019.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown October 2020.

Aurora environmental
ASSESS • ADVISE • APPLY

Drawn [redacted] Date: 17 May 2021

Whitfield Court Pty Ltd
SITE MANAGEMENT PLAN
LOT 4 MUSSON ROAD AND LOT 20 ROCKINGHAM ROAD, HENDERSON, WA

ENGINEERED SUB-BASE VERIFICATION

Figure 4

Job: MSG2018-001

PINPOINT CARTOGRAPHICS (08) 9662 7136 MSG-2018-001_SMP_027_p-004.dgn

APPENDIX 2

‘Clean Fill’ Certificate

CERTIFICATION 'CLEAN FILL' OR VIRGIN EXCAVATED NATURAL MATERIAL

SECTION 1.

I _____[full name]

of _____ [organisation and address]

Certify that the material as set out in section 2 of this notice is 'Clean Fill' as defined in 'Landfill Waste Classifications and Waste Definitions' 1996 (as amended 2019).

Clean Fill Definition: *Clean Fill means raw excavated natural material such as clay, gravel, sand, soil or rock fines that:*

a) has been excavated or removed from the earth in areas that have not been subject to potentially contaminating land uses including industrial, commercial, mining or agricultural activities; and

b) has not been processed except for the purposes of:
   i. achieving desired particle size distribution; and/or
   ii. removing naturally occurring organic materials such as roots; and

c) does not contain any acid sulfate soil; and

d) does not contain any other type of waste.

SECTION 2.

The material was sourced at:

Street Address: _____

Title Reference (Lot /DP): _____

The amount material (by volume or weight) supplied to which this certificate applies: _____

SECTION 3.

I have made the determination that the material is 'Clean Fill' because:

- ☐ I have assessed the historical and current land use of the site at which the material was generated and it has not been previously disturbed nor subject to potentially contaminating land uses including industrial, commercial, mining or agricultural activities.
- ☐ The site at which the material was generated is not classified as 'Contaminated', 'Potentially Contaminated – Investigation Required' nor has it been reported as a known or suspected contaminated site under the *Contaminated Sites Act 2003*.
- ☐ The material is not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities.
- ☐ The material does not contain any sulfidic ores or soils (i.e. not ASS).
- ☐ The material does not contain any other waste.
- ☐ The material is weed free and does not contain *Phytophthora* 'dieback'.
- ☐ The material does not contain asbestos in any form.

Note: that all sections of this form must be completed including all boxes checked in Section 3 above and signed below for any material to be certified as 'Clean Fill' or VENM.

Signatures(s): _____

Name(s) (printed): _____

Date: _____

APPENDIX 3

Environmental Incident and Hazard Form

ENVIRONMENTAL INCIDENT AND HAZARD FORM
SITE (CONTAMINATION) MANAGEMENT PLAN

1. NOTIFICATION OF INCIDENT	
1.1 Who is Reporting the incident?	
Site Owner	☐
Contractor	☐
Other	☐ Provide Details:
1.2 Who Received the Notification?	
1.3 Date and Time of Notification?	
1.4 Date and time of incident occurring?	
1.5 How was the Incident Reported?	
In person	☐
Telephone	☐
Email/Letter	☐
1.6 Informant	
Name	
Address / Department (where applicable)	
Telephone	
2. NATURE OF THE INCIDENT	
2.1 Incident Category *(tick more than one box if appropriate)*	
Incident	☐
Hazard or Potential Hazard	☐
Near Miss	☐
Complaint	☐
2.2 Incident Type *(tick more than one box if appropriate)*	
Groundwater	☐
Surface Water	☐
Stormwater	☐
Soil	☐
Odour	☐
Noise	☐
Other	☐

2.3 Environmental Risk Rating	
Low	☐
Medium	☐
High	☐

2.4 Description of the Incident

In completing the following sections attach records, photographs, sketches etc. as necessary.

2.5 Describe the inferred cause(s) of the incident

2.6 Duration of the incident (how long did it last)

3. INCIDENT RESPONSE	
3.1 Initial Corrective Action taken	
3.2 Further Notifications (details - Yes / No / Who / Date / Time):	
Management	
Regulatory Agencies	
Emergency Services	
Other	
4. SIGNATURE	
Form Completed By	
Signed	
Date	
Responsible Manager	
Signed	
Date	
5. POST-INCIDENT ASSESSMENT	
5.1 Adequacy of initial corrective action taken	
5.2 Further Corrective Action Taken	

5.3 Recommendations
5.3.1 Timeframe for implementation of recommendations

6. DISTRIBUTION LIST	
Management	
Other	

10.2. Attachment 8B – Thuroona Services Class A Asbestos Licence WUA184

Asbestos Removal Licence

Licence Holder: Thuroona Services Pty Ltd

Licence Number:	**WUA184**
Class:	**Class A Asbestos Removal Licence**
Date Granted:	**27 November 2014**
Date of Expiry:	**28 November 2024**

Scope:

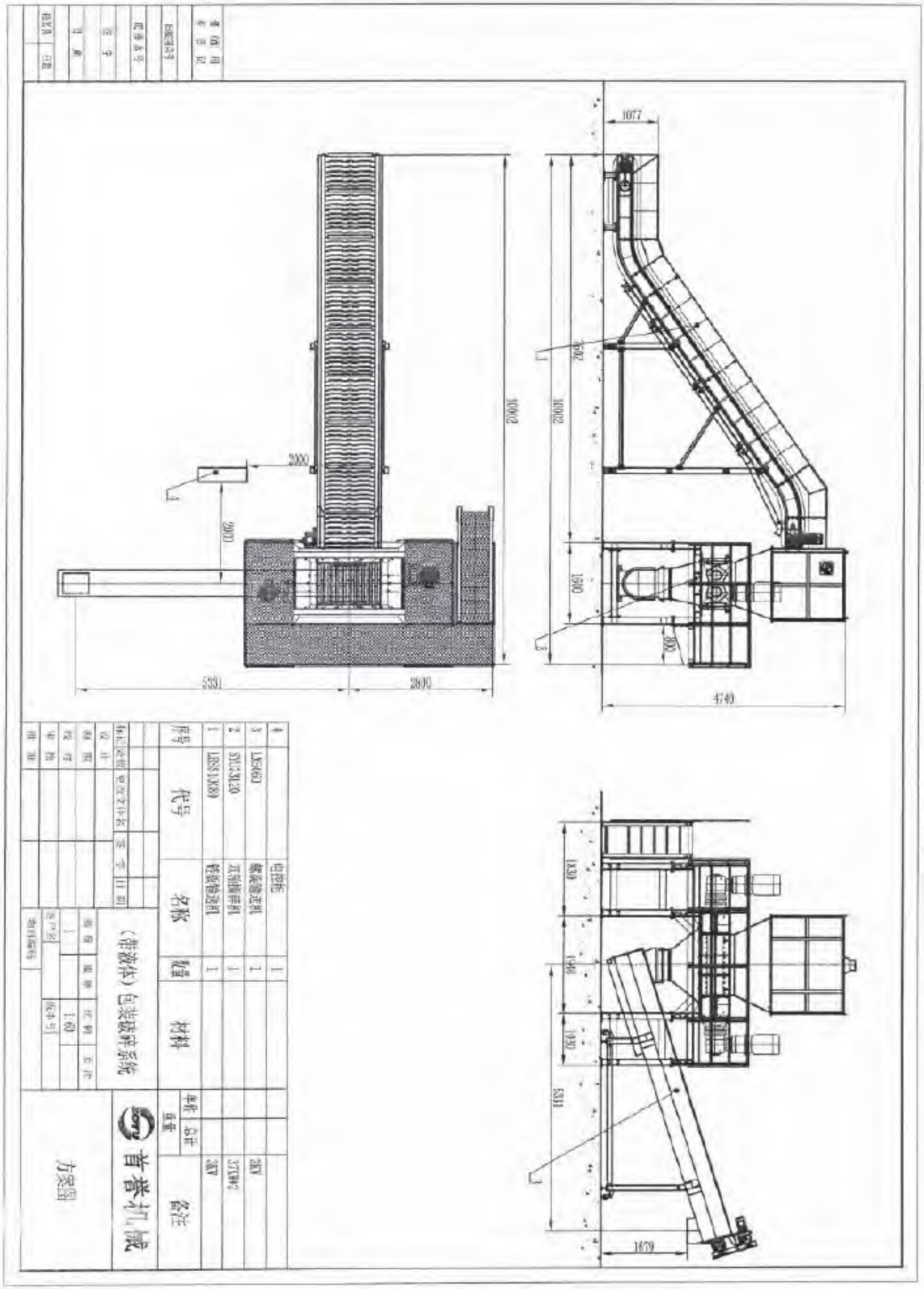
This licence authorises the licence holder to carry out asbestos removal as described in regulation **485** of the Work Health and Safety (General) Regulations 2022.

Conditions on Licence:

1. The licence holder must keep a copy of the notification of asbestos removal to the regulator, required in accordance with regulation 466, for a minimum period of two years.
2. The licence holder must retain a copy of the Asbestos Removal Control Plan for each asbestos removal job, for a minimum of two years.
3. The licence holder must keep a copy of the asbestos Clearance Certificate for a minimum period of two years.
4. The licence holder must retain a copy of the Safe Work Method.
5. The licence holder must keep a copy of the receipts issued by the waste disposal facility, to which asbestos material is disposed, for a minimum period of two years.

10.3. Attachment 8C – Product Destruction Unit

1.Equipment Layout



10.4. Attachment 8D – HotWash Drum Cleaner Pressure Unit

AVANT 20/21 HOTWASH

HOT WATER HIGH-PRESSURE CLEANER

Painted steel frame. Stainless steel vertical boiler. Ventilation by independent electric motor. Professional pump with ceramic plungers. Bypass valve. Pump and motor coupling with elastic joint. Burner control with flow switch and thermostat. Adjustable high pressure chemical suction. External tap for pressure and chemical regulation. 24V low tension electrical controls. Magneto thermic overload switch.

STANDARD EQUIPMENT

- 10 m HP hose with quick coupling
- 120 cm lance
- Professional gun
- Stainless steel water nozzle

Features:
Bypass Valve
Thermostat for temperature adjustment
Stainelss steel vertical boiler with Flame Control Sensor
Ventilation by independant electric motor
24V Low tension electrical controls

Detergent injection at high pressure
Header Water Tank
Steam Valve

Large Diesel Fuel Tank

Performance:
3000 PSI @ 21 Litres per Minute
Manufactured in Italy

Motor:
415V Electric Motor @ 1440 Rpm
7.5kW / 10.0HP Power - 20Amp plug

Pump:
Interpump WS202 Italian Triplex Piston Pump
1440 RPM Pump Speed
100°C Max Temperature
Built in Italy

Frame:
AISI 304 Stainless Steel Casing
Painted Steel Frame
Weight 170Kg

Size: H880 x W610 x L1100mm

PRESSURE MASTERS

10.5. Attachment 8E – Drum Cleaning Attachment

TANK CLEANING EQUIPMENT

Three-dimensional rotating spray head for the most efficient and economical internal cleaning of all types of containers.

Portable and easy to use cleaner for economical, safe, efficient and hygienic internal cleaning of all types of containers and tanks in any industry.

-Clean the inside of your tanks and containers from the outside-

Unit Types available:

Electric Drive – Type ER

Specs:

Power Requirements:-	AC 240v or24v or115v or12v DC
Rotational Speeds:-	11, 17, 24, & 33 RPM
Water Flow Rates:-	Up to 80Lt/Min.
Working Pressure:-	Up to 250bar
Working Temperature:-	Up to 150 deg. C
Working Lengths:-	500mm to 4000mm

Air Drive – Type AR

Specs:

Power Requirements:-	Compressed Clean air
Rotational Speed:-	10 – 30 RPM
Water Flow Rates:-	Up to 80Lt/Min.
Working Pressure:-	Up to 250bar
Working Temperature:-	Up to 150 deg. C
Working Lengths:-	500mm to 4000mm

Hydro Drive – Type HR

Specs:

Power Requirements:-	Flow from External water supply
Rotational Speed:-	10 – 30 RPM
Water Flow Rates:-	Up to 50Lt/Min.
Working Pressure:-	Up to 200bar
Working Temperature:-	Up to 90 deg. C
Working Lengths:-	170mm – 4000mm

The MOOG Container cleaning units feature a simple yet ingenious design rotary cleaning head and requires minimal cleaning medium consumption to clean difficult products.
With the unit place inside the tank, the rotary cleaning head, with spray nozzles driven by an electric geared motor, air motor (explosion proof) or hydro drive (explosion proof), rotates about its horizontal and vertical axis, resulting in an accurate and complete coverage to every part of the tank's internal surface.
The path that the spray nozzles follow creates an entire sphere.

Moog Systems Australia Pty Ltd
E: info@moogsystems.com.au
W: www.moogsystems.com.au

TANK CLEANING EQUIPMENT

Spray Head Configurations Available:

Conical Spray Head

32mm & 42mm Spray Heads

55mm Spray Head

Double Spray Head

Attachments to Suit Various Applications:

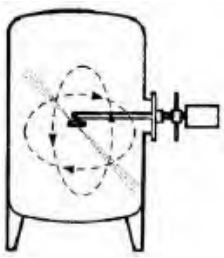
Bung Hole Mount

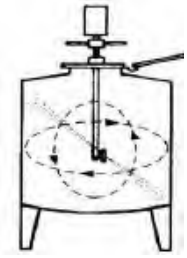
Double Handle

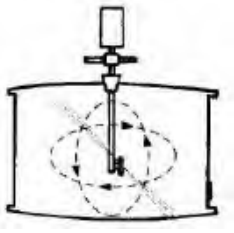
Suspension Bow

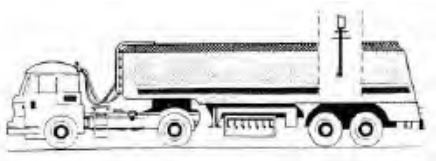
Flange Fixture

Applications:









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10.6. Attachment 8F – HazRad Wattleup Fire and Emergency Management Plan

Hazrad Waste Facility Wattleup

Fire & Emergency Management Plan

26 March 2025

Ref: 301251723

PREPARED FOR:

[redacted]

PREPARED BY:

[redacted]

Stantec

Revision Schedule

Revision No.	Date	Description	Prepared by	Approved
01	18/12/2023	Draft Issue for comment	[redacted]	
02	06/03/2025	Updated issue post DFES advice		
03	26/03/2025	Updated to include emergency contact details		

Disclaimer

The conclusions in the report are Stantec's professional opinion, as of the time of the report, and concerning the scope described in the report. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. The report relates solely to the specific project for which Stantec was retained and the stated purpose for which the report was prepared. The report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from the client and third parties in the preparation of the report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This report is intended solely for use by the client in accordance with Stantec's contract with the client. While the report may be provided to applicable authorities having jurisdiction and others for whom the client is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion.

Contents

Emergency Contact Information

Site Contacts

Role		Name	Contact Number
[redacted]		[redacted]	

External Contacts

Name		Contact Number		
Fire Brigade	DFES	000	or	112
Police		000	or	112
Ambulance		000	or	112
Poisons Information Centre		13 11 26		
Water Corporation		13 13 75		
Electrical Supply Authority	Western Power	13 13 51		
Gas Supply Authority	ATCO Gas	13 13 52		
Medical	Fiona Stanley Hospital	08 6152 2222		
Medical	Rockingham Hospital	08 9599 4000		
City of Cockburn	Ranger	08 9411 3444		
Crisis Counselling	Vision Counselling	1300 184 746		
[redacted]	[redacted]	[redacted]		
State Emergency Service		08 9780 1900	or	132 500

1. Introduction

1.1 Purpose

The purpose of this document is to outline the emergency provisions and procedures applicable to the Hazrad Waste Facility Wattleup, based on assessment of the risk of different fire events and relevant publications in order to fulfil the facility licence requirements from the Department of Water and Environmental Regulation (DWER).

The Fire & Emergency Management Plan (FEMP) includes the following:

- Site information, including site configuration, types of materials processed and stored, operational processes and emergency equipment
- Emergency Contact Information
- Identification of Key Risks to the Site
- Pre-planning requirements
- Fire Emergency Response Procedures
- Summary of fire water run-off and containment provisions

1.1 Sources of Information

The following primary sources of information have been used in the preparation of this document, in addition to other documents identified in Section 7:

- Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007 [1]
- Summary Notes and Recommendations from Scoping Meeting held between Hazrad Australia Pty Ltd and DWER, dated 2 October 2023
- Site Plan – Stage 1 | Hazrad Waste Facility, 13 Musson Road, Wattleup, prepared by Arthouse Design
- DG Storage Area summary and requirements prepared by ESSR for the facility
- DFES Guidance Note: GN01: Firefighting Water Supply Considerations for Special Hazard and Dangerous Goods Sites [2] and Guidance Note: GN03: Fire Safety Considerations for Open Yard Storage [3]
- Australian Standard AS 2419.1:2005 – Fire Hydrant Installations | Part 1: System Design, Installation and Commissioning [4]
- Meeting with DFES on 15 January 2025 and subsequent email advice received regarding fire hydrant provisions.

1.2 Risk Assessment Process

1.2.1 Context and Objectives

A simplified risk assessment has been undertaken to identify the most relevant fire emergencies to be considered for pre-planning for emergency responses and potential adverse outcomes.

1.2.2 Likelihood Ratings

The "Likelihood" for difference scenarios occurring is presented below based on a qualitative description of likelihood.

Almost certain:	A	Will occur during the lifetime of the site, regardless of maintenance or human error
Likely:	B	Strong possibility that the event will occur during the lifetime of the building
Moderate:	C	Probable that the event will occur during the lifetime of the building
Unlikely:	D	Not expected to occur during the lifetime of the facility based on reasonable standards of maintenance and management in use
Rare:	E	Unlikely that conditions will arise that would result in the event occurring during the lifetime of the building

Table 1.1 - Definition of Likelihood used for Risk Assessment

1.2.3 Consequence Ratings

The "Consequence" for different outcomes are outlined below in Table 1.2 below. On the basis that the buildings on site contain few occupants and are provided with egress points which are within the distances prescribed under the BCA Deemed-to-Satisfy provisions, the life safety considerations are not directly included in the risk assessment.

Major:	5	Full replacement of building(s), spread to adjoining properties
Significant:	4	Full refurbishment or replacement of the building
Moderate:	3	Replacement of fixed equipment or large mobile plant
Minor:	2	Facility offline for short period for minor repairs or investigation
Insignificant:	1	Localised damage, operations resume within one business day

Table 1.2 - Categorisation of Consequence, Property Protection Considerations

1.2.4 Risk Rating Matrix

The overall "Risk Rating" for a particular fire scenario is determined based on the combination of the "Likelihood" of an event occurring, and the "Consequence" of the outcome of the event.

	Risk Rating				
	Consequence				
Likelihood	Insignificant (1)	Minor (2)	Moderate (3)	Significant (4)	Major (5)
Almost Certain (A)	Moderate	High	High	Extreme	Extreme
Likely (B)	Moderate	Moderate	High	High	Extreme
Moderate (C)	Low	Moderate	Moderate	High	High
Unlikely (D)	Low	Low	Moderate	Moderate	High
Rare (E)	Low	Low	Low	Moderate	Moderate

Table 1.3 - Risk Rating Matrix

2. Facility Information

2.1 Location and Site Plan

The new Hazrad waste facility will be constructed at 13 Musson Road Wattleup WA, 6164, which is a former landfill and asbestos contaminated site. The premises is a sub-leased area of a wider lot, with an overall site area of approximately 7,688 m^2. Figure 2.1 shows the location of the site. The site is located outside of the bush fire prone areas (pink shaded).

Figure 2.1 - Site Location

2.2 Site Layout

The site will be generally configured as an open yard layout with demountable structures using multiple outdoor Dangerous Good (DG) bunded sea-containers and a flame-retardant dome shape roof cover in between to provide partial enclosure. Two sides of the undercover processing and storage areas always remain open, providing ventilation during handling activities.

The layout of the site is shown in Figure 2.2 and Figure 2.3 below. The site is segregated into four parts, the Vehicle Unloading area, the Waste Treatment and storage areas, Maintenance Bay and the open yard.

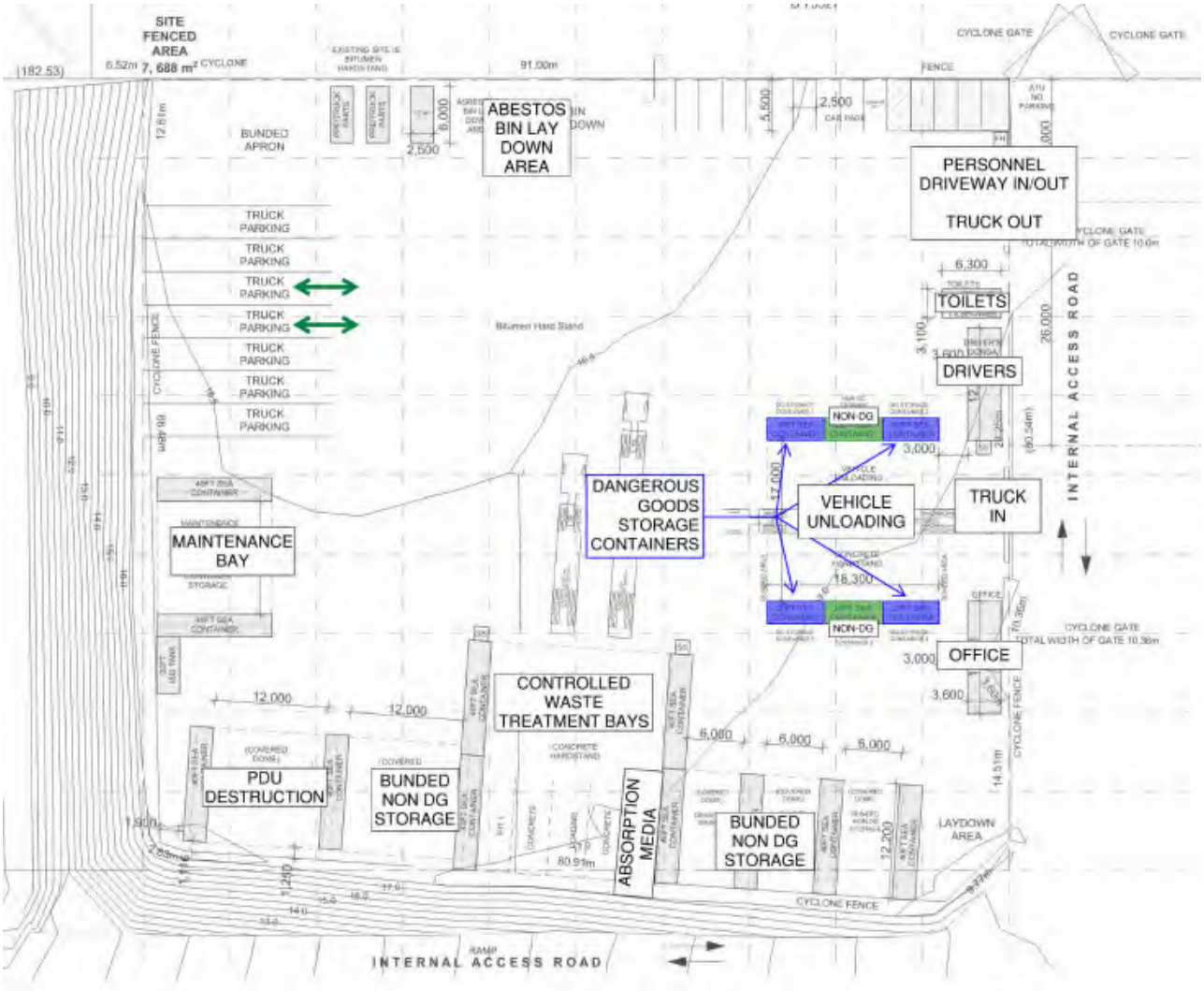

Figure 2.2 – Site Layout

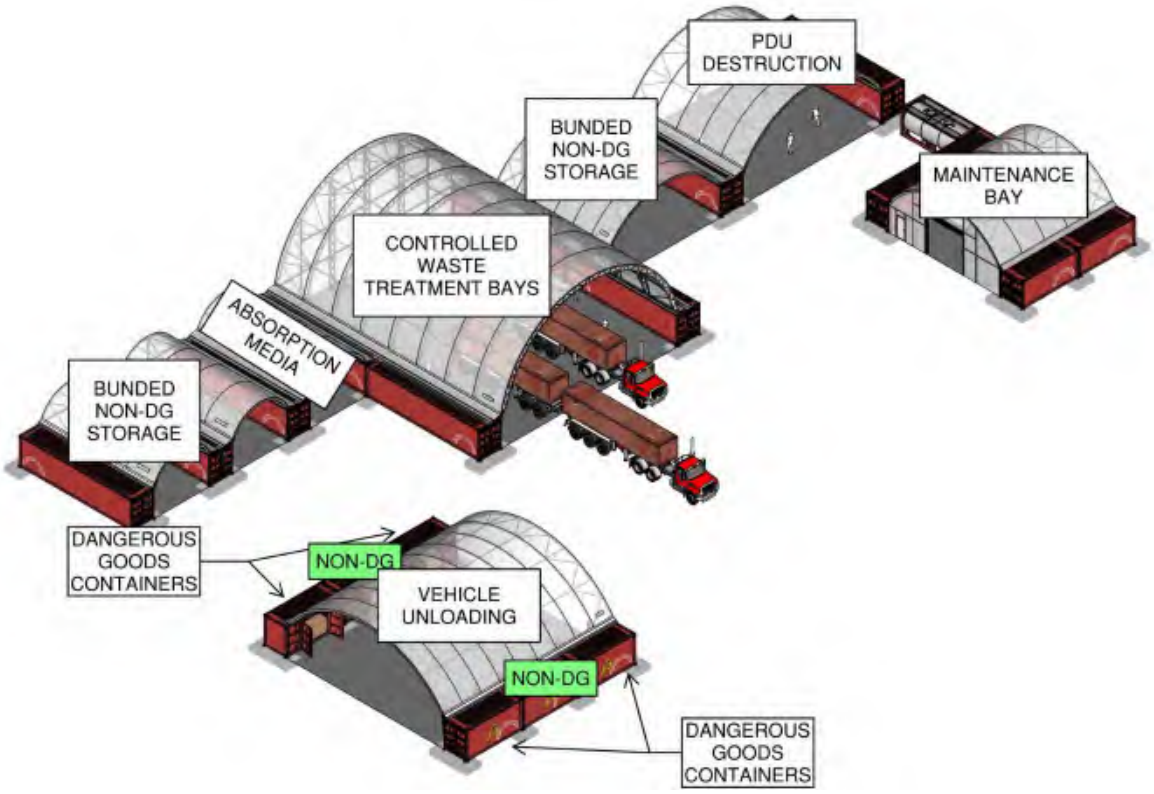

Figure 2.3 – 3D view of demountable structures

2.3 Operations

The operation of the site is described below:

- The trucks and trailers entre the site via the Vehicle Unloading area to the east of the site, where Dangerous Goods (DG) will be off loaded and stored at the DG Containers (highlighted in blue in Figure 2.2).
- The waste and material will be processed in the main building to the south of the site, which comprise the Product Destruction Units (PDU), Controlled Waste Treatment Bays, Absorption Media and Bunded Non-DG Storage.
- Empty containers will be stored on site in appropriate areas.
- Asbestos bins will be stored and laid down at the north of the site.
- Stockpiles of Inert Waste Type 2, i.e. conveyor belt rubber, may be stored in the open yard.
- The sea containers separate and segregate the different waste process and storage areas.

2.4 Material Type and Process

The site will process a range of waste materials and provide temporary storage, including the following:

- Consolidation and storage of controlled waste pending offsite disposal.
- Mixing of liquid waste with organic material for an absorption process.
- Drum and IBC cleanout.
- Product Destruction Units (PDU) destruction.
- Temporary storage of wrapped asbestos coated pipes.

- De-packaging of water-based paints.
- Inert Waste Type 2 - waste consisting of stable non-biodegradable organic materials such as tyres and plastics.
- The provision of a Heated Overland thermal Treatment Hotpad system for the treatment of oil impacted wastes and sludges may be provided at Stage 2 of the development (to be confirmed).

2.5 Dangerous Goods

Limited Dangerous Goods (DGs) are present on site, primarily located in the Vehicle Unloading Area which is separated at a distance from the rest of the demountable structures on site in accordance with requirement as listed in Dangerous Goods report. A non-dangerous goods storage container will be provided to separate each DG container.

Dangerous Goods will be stored in 4 separate 20 foot sea containers for a mixed class store of packages. Each container will comprise a maximum of 16 kL of Dangerous Goods, as follows:

- 1 x 16kL of Class 6.1 Toxic Substances
- 1 x 16 kL of Acids (DG Class 8)
- 1 x 16 kL of alkaline (DG Class 8)
- 1 x 16 kL of miscellaneous substances (DG Class 9)
- All DGs will be either Packaging Group II or III
- All substances in each freight container are compatible
- Materials are kept stored in Australian Dangerous Goods approved packages provided by manufacturers
- All packages remain closed at all times
- Freight containers are purposely built for storage of Dangerous Goods with single door access to each pallet location, located outdoors and under cover at ground level.

2.6 Equipment and Machinery

2.6.1 Mobile Equipment

The site is provided with the following mobile equipment:

- Excavator and Posi-track Loader
- Forklifts
- Front end loader operators

2.6.2 Communication Equipment

The site is provided with the following on-site communication equipment:

- Two-way Radios
- Mobile phones

2.7 Emergency Services Response

2.7.1 Emergency Services Provisions

The site is provided with a combination of fixed and portable firefighting and emergency response equipment, including the following:

- Portable or wheeled fire extinguishers and fire blankets
- Emergency Eyewash stations
- First Aid Kits
- Feed Fire Hydrant for fire brigade use
- On-site fire appliance with 3,200 L tank, twin high-pressure reels and Class B foam. This will be typically available on site unless deployed for a specific project.

2.7.2 Emergency Services Access

Emergency Services access to the site is from Musson Road, from Rockingham Road. The nearest fire station is the Hope Valley Fire Station, which is located at 50 Hoyle Road, Hope Valley WA 6165, approximately 4.6 km from the site, as shown in Figure 2.4.

Figure 2.4 - Emergency Services Access to Site

Figure 2.5 shows the emergency services vehicle access routes on the site. Access is from the site entry off Musson Road, via an internal access ramp and driveway, and entering the areas via the truck in cyclone gate. Exit from the site is via the Truck Out cyclone gate, returning via the internal access road to Musson Road.

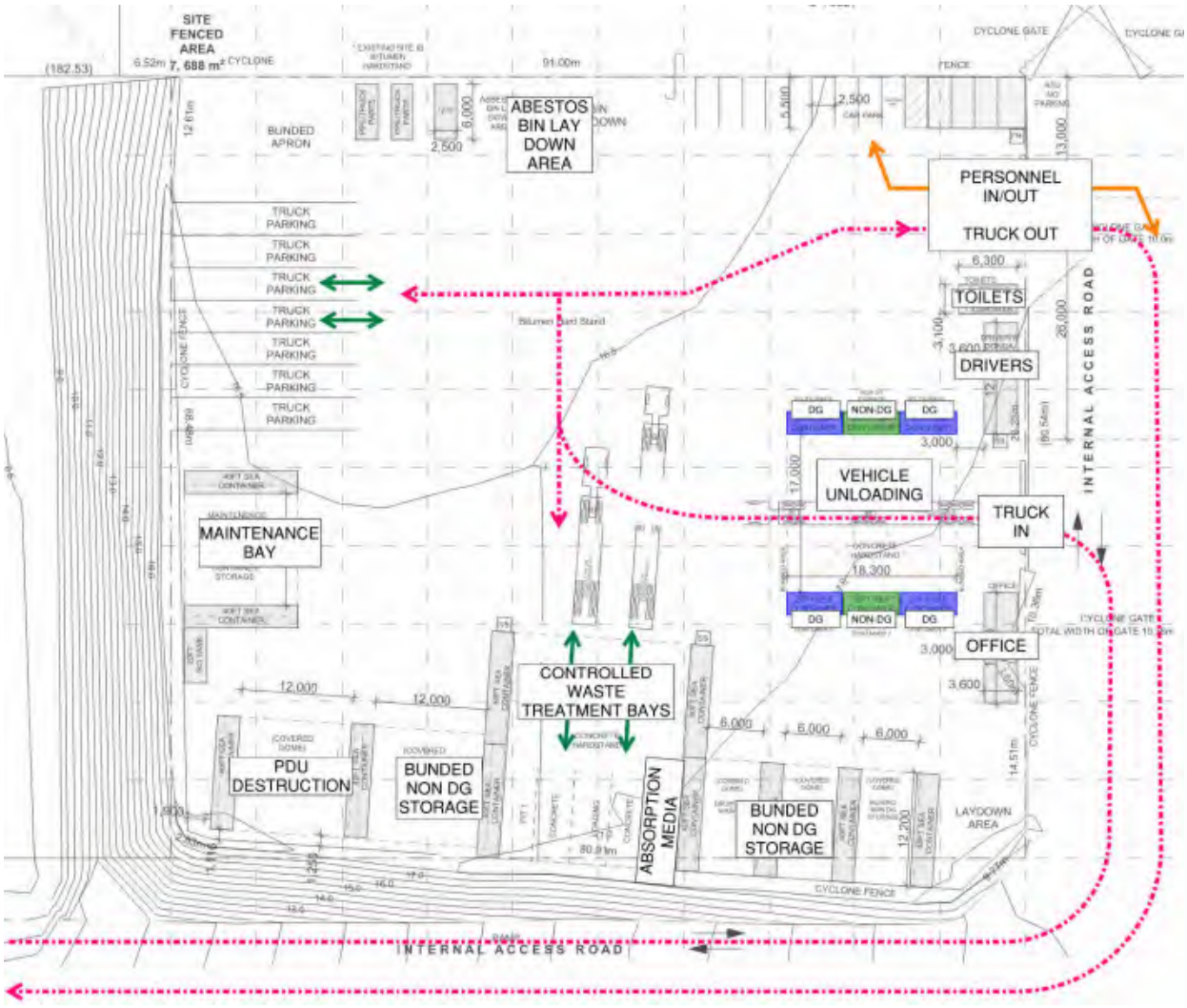

Figure 2.5 - Emergency Vehicle Site Access Routes

2.7.3 First Attack Fire and Emergency Equipment

The site shall be provided with first attack fire and emergency equipment for initial firefighting activities undertaken by staff.

- Portable or wheeled fire equipment in accordance with AS 2444 [5] and following:
  - Carbon dioxide fire extinguishers to PDU Product Destruction Unit
  - Wet chemical fire extinguishers to Absorption Media
  - Dry chemical powder fire extinguishers adjacent to each of the container not listed above
  - Fire blankets to Absorption Media

2.7.4 Fire Brigade Equipment

Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007 Part 4 Division 2 Clause 73(2)(c) [1] require adequate fire control equipment to be provided to site, including equipment that can be used immediately without adaptation or modification, by any fire brigade under the control of the FES Commissioner.

It is understood that there are no prescriptive compliance requirements for designing fire water supply or fire brigade equipment to Dangerous Goods site.

DFES Guidance Notes GN01 - Firefighting Water Supply Considerations for Special Hazard & Dangerous Goods Sites [2] and GN03 - Fire Safety Considerations for Open Yard Storage [3] recommended that additional consideration shall be given to provide non-required fire safety measure to support fire brigade operation and AS2419.1 [4] can be referred for system design.

This Fire and Emergency Management Plan considers the following to provide fire water supply to site which fire brigade will be able to connect to their fire appliance, immediately without adaptation or modification in a fire event.

- The street main is to be extended to the perimeter of the site and provided with a feed hydrant, which will provide access to water for connection to fire brigade appliance
- The feed hydrant shall achieve a minimum flow and pressure of 10L/s @ 200kPa
- The feed hydrant installation is to comply with AS 2419.1:2005 Clause 3.2.2 for external hydrants.
- The fire hydrant shall be pillar type and located at the perimeter of the site, readily accessible, external to bunds and provided with bollards to protect against mechanical damage.
- Provision of double check valve backflow prevention device to avoid contamination of potable water in accordance with Water Corporation requirements
- As per Dangerous Goods report, any overflow of water from the store's bunded area, it is directed to the vehicle parking area that includes a pit and water will be tested prior release.

Figure 2.6 – Water Corporation Street main & Fire hydrant location

3. Fire Risk Assessment

Further to the risk assessment process outlined in Section 1.2, and considering the site details as outlined in Section 2, the following table presents the identified risk ratings determined in accordance with Table 1.3, based on the physical and management controls, in relation to the Fire Emergencies considered under this plan. The likelihood and consequence have been determined in accordance with Table 1.1 and Table 1.2 respectively:

Emergency Type	Location	Primary Fuel / Ignition Source	Likelihood	Consequence	Risk Rating	Comment
Fire	Vehicle Unloading	A mixed of waste materials in containers will be off loaded from truck. Materials will be compatible. Dangerous Goods will be storage within the DG containers. Minimal ignition source within the sea container.	Unlikely	Insignificant A waste fire will be contained within the sea container. Area is separated from other areas by sea containers and remote from other areas by distance.	Low	Strictly follow the handling and storage requirement for Dangerous Goods. Fire and emergency equipment are provided to site for initial fire attack. Fire brigade equipment is provided. Regular servicing maintenance on fire equipment.
Fire	Controlled Waste Treatment Bays	Waste material other than Dangerous Goods will be sorted and processed. Waste may be ignited from vehicles, smoking or embers from bushfire.	Likely	Insignificant Localised impact only. Area is separated from storage areas by sea containers.	Low	Strictly follow the handling and storage requirement for Dangerous Goods. Fire and emergency equipment are provided to site for initial fire attack. Fire brigade equipment is provided. Regular servicing maintenance on fire equipment.
Fire	Absorption Media	Liquid waste will be mixed with organic material for an absorption process. Flammable liquid may be ignited from vehicles, smoking or embers from bushfire.	Moderate	Insignificant Localised impact only. Area is separated from storage areas by sea containers.	Low	Fire and emergency equipment are provided to site for initial fire attack. Fire brigade equipment is provided. Regular servicing maintenance on fire equipment.

Emergency Type	Location	Primary Fuel / Ignition Source	Likelihood	Consequence	Risk Rating	Comment
Fire	Bunded non-DG Storage	Dry combustibles may be ignited from smoking or embers from bushfire.	Moderate	Insignificant Localised impact only. Area is separated from other areas by sea containers.	Low	Fire and emergency equipment are provided to site for initial fire attack. Fire brigade equipment is provided. Regular servicing maintenance on fire equipment.
Fire	PDU Destruction	Electrical and electronic hardware may be ignited from spark, smoking or embers from bushfire.	Moderate	Insignificant Localised impact only. Area is separated from storage areas by sea containers.	Low	Fire and emergency equipment are provided to site for initial fire attack. Fire brigade equipment is provided. Regular servicing maintenance on fire equipment.
Fire	Maintenance Bay	Storage of empty containers which contain minimal fuel load.	Unlikely	Insignificant Localised impact only. Area is separated from other areas by sea containers and remote from other areas by distance.	Low	Strictly follow the handling and storage requirement for Dangerous Goods. Fire and emergency equipment are provided to site for initial fire attack. Fire brigade equipment is provided. Regular servicing maintenance on fire equipment.
Fire	Asbestos Bin Lay Down Area	Asbestos is a non-combustible and non-flammable material	Rare	Insignificant Localised impact only. Area is remote from other areas by distance.	Low	Fire and emergency equipment are provided to site for initial fire attack. Fire brigade equipment is provided. Regular servicing maintenance on fire equipment.

Emergency Type	Location	Primary Fuel / Ignition Source	Likelihood	Consequence	Risk Rating	Comment
Fire	Open Yard	Small quantities of stockpile of Inert Waste Type 2 Waste may be ignited from vehicles, smoking or embers from bushfire.	Moderate	Insignificant Localised impact only. Area is remote from other areas by distance.	Low	Strictly follow the handling and storage requirement for Dangerous Goods. Fire and emergency equipment are provided to site for initial fire attack. Fire brigade equipment is provided. Regular servicing maintenance on fire equipment.
Fire	Vehicle	A fire starting at a vehicle	Unlikely	Minor Damage to vehicle	Low	Strictly follow Australian Dangerous Goods Code requirement for Transport of Dangerous Goods by Road & Rail. Fire and emergency equipment are provided to site for initial fire attack. Fire brigade equipment is provided. Regular servicing maintenance on fire equipment.
Fire	ISO Tank	Fire involving gas leakage from discarded gas bottles	Moderate	Insignificant Localised impact only, unlikely to ignite other materials	Low	Strictly follow the handling and storage requirement for Dangerous Goods. Fire and emergency equipment are provided to site for initial fire attack. Fire brigade equipment is provided. Regular servicing maintenance on fire equipment.

Table 3.1 - Risk Identification and Rating

4. External Impacts from Fire Event

4.1 General

This section outlines the anticipated external impacts of critical fire events in terms of water runoff and smoke production.

4.1.1 Water Run-off

It is understanded that impermeable concrete hardstand will be constructed within the segregated areas for waste processing activities, which will preventing run-off of water between the areas.

The site is capped with existing bitumen hardstand. It is noted that the existing site is a former landfill and asbestos contaminated site.

Any overflow of fire water will be directed to the vehicle parking area that includes a pit and the water will be tested prior release.

4.1.2 Smoke Spread

In the event of a fire, smoke will vent to atmosphere or via the open faces under the dome cover.

External smoke movement will be governed by the prevailing wind. Monitoring of smoke and combustion products may be undertaken by DFES or DWER at the discretion of the emergency services.

Significant smoke production is not expected to the Maintenance Bay where empty containers are stored.

Fire involving dangerous goods or Inert Waste Type 2 may produce toxic gases and chemicals causing respiratory problems such as bronchitis and irritation to the nose, throat and lungs. Staff on site shall keep clear and upwind to prevent smoke inhalation.

It is noted that the facility is located within a zoned industry area, but some remnant residential receptors exist within close proximity to the premises. Smoke outside is unlikely to affect the general public. A public health alert will be issued by Government if smoke is likely to affect residential areas.

5. Emergency Response Procedures

5.1 General Requirements

In the event of a FIRE, the following procedures shall be followed:

1. ALERT and ASSIST anyone in immediate danger, unless this will put you in danger
1. IF the fire is in an isolated area AND YOU HAVE BEEN TRAINED, attempt to extinguish with a portable fire extinguisher or fire hose reel
2. NOTIFY the **Emergency Response Team** – Branch Manager, Emergency Controller, Area Warden
3. CALL 000 and state the following:
    a. Your Name
    b. Type of Incident (e.g. Cardboard fire, Green Waste Fire, General Rubbish Fire)
    c. Site Address – HAZRAD WASTE FACILITY, **13 MUSSON ROAD, WATTLEUP**, access from Rockingham Road southbound to Musson Road
    d. Any INJURIES
4. SHUTDOWN any operating plant with RED ISOLATION BUTTON
5. FRONT END LOADER OPERATOR
    a. Fire smaller than 2 m^2 – if trained, remove burning material and unload on external concrete hardstand
    b. Fire larger than 2 m^2 – if safe to do so, ensure clearance to other pile exceeds 10 metres
6. Keep clear of emergency personnel and provide assistance when requested.
7. Await instruction from Emergency Response Team.
8. If in doubt, proceed to the MUSTER POINT, taking care to avoid vehicle

5.2 Additional Actions – Branch Manager and Emergency Controller

Additional actions to be coordinated and undertaken by the Branch Manager and Emergency Controller:

9. Meet Emergency Services at site entry and provide briefing and copy of relevant Safety Data Sheets
10. Notify neighbouring properties - industrial sites located within the wider Lot, the Henderson Waste Recovery Park located to the east, DBCA Conservation Park reserve including Lake Mount Brown and other wetlands west of the premises across Rockingham Road.
11. Initiate Evacuation where required.
12. Commence Roll Call for staff and ensure all public and off-site personnel are accounted for. NOTIFY FIRE BRIGADE if any staff or visitors are unaccounted for.

5.3 Post Emergency Actions

Following all-clear from Emergency Services and Chief Warden / Area Warden, the following actions are required:

1. Debrief staff and confirm contacts for Employee Assistance Program, Work Health and Safety

2. Identify areas which may recommence operations
3. Barricade affected areas and lock-out associated equipment until repaired
4. Provide assistance to any investigators and emergency responders

6. Prevention and Preparedness

6.1 Inspections and Maintenance

Regular inspections of the site are to be carried out to confirm the following requirements are satisfied, including maintenance of fire safety equipment in accordance with the requirements of AS 1851:2012:

6.1.1 Fire and Safety Equipment

- Portable or wheeled fire extinguishers are in place and accessible
- Spill kits are located in the required locations and are fully stocked
- Feed hydrant and double check valve are tagged and maintained regularly

6.1.2 Building and General Site Features

- Driveway and access are clear and free from obstruction
- Ensure waste processing is conducted in the designated area
- Ensure dangerous goods or non-DG piles are stored at the designated area
- Ensure Safety Data Sheets are located at the site entry
- Site is secure
- Filled containers shall be positioned with access door end readily accessible.

6.2 Site Access

Access to the site is to be controlled via the site office.

Site visitors and personnel who have not been inducted shall be escorted at all times, except when moving to designated public drop-off areas.

6.3 Staff Training and Drills

Site staff shall be provided with emergency awareness training, at commencement with refresher within six months of starting on site. Training shall include primary training in the use of on-site emergency equipment, portable fire extinguishers, fire blankets, spill response kits, and the location of emergency shut-off points.

Additional training applies to Emergency Response Team members, including additional responsibilities and contact requirements in the event of an emergency.

Emergency response drills shall be undertaken on a six-monthly basis, including emergency alarm testing and responses, and evacuation times. Emergency response drills shall include different emergency scenarios and locations. Post-drill debriefs shall be carried out, with the date, time, and nature of the drill recorded and retained on site.

6.4 Review

This Fire & Emergency Management Plan shall be reviewed every three years, when change to the function or use of the site, or when change in key personnel occurs.

7. References

[1] Western Australia, Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations, Western Australia: Western Australia, 2007 .

[2] DFES Hazmat Branch, Guidance Note: GN01 | Firefighting Water Supply Considerations for Special Hazard & Dangerous Goods Sites, Perth: Department of Fire & Emergency Services, 2020.

[3] DFES HAZMAT Branch, Guidance Note: GN03 | Fire Safety Considerations for Open Yard Storage, Perth: Department of Fire & Emergency Services, 2020.

[4] Standards Australia, Australian Standard 2419.1:2005 - Fire Hydrant Installations, Part 1: System Design, Installation and Commissioning, Sydney: Standards Australia, 2005.

[5] Standards Australia, Australian Standard 2444:2001 - Portable Fire Extinguishers and Fire Blankets - Selection and Location, Sydney: Standards Australia, 2001.

[6] Standards Australia, Australian Standard 2441:2005 - Installation of Fire Hose Reels, Sydney: Standards Australia, 2005.

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stantec.com/au

10.7. Attachment 8G – HazRad Wattleup Site Emergency Response Plan

HAZRAD Australia

Site Emergency Response Plan (SERP) 13 Musson Road Henderson 6166

Version No.	Section No.	Date of Change	Preparer (P) Reviewer (R)
1.0	Whole Document	7th May 2024	[redacted]
2.0	Whole Document	8th May 2024	
2.1			

Table of contents

Site Emergency Response Plan

1. Description

The Site Emergency Response Plan (SERP) Wattleup Depot details the critical information, requirements and accountabilities for to meet the requirements of Australian Standard 3745-2010, planning for emergencies in facilities and State specific requirements. This document gives direction to HazRad personnel who are responsible for preparing for an emergency or implementing an emergency response.

2. Scope

This procedure is a local document, which means it applies to the Wattleup Depot Operations to ensure the safety and wellbeing of all Personnel, Visitors, Suppliers and Contractors in an informative manner.

3. Site and Emergency Details

1. Site information

Site Name: HazRad Australia – Wattleup Depot

Address: 13 Musson Rd Wattleup WA 6163

2. Wardens and Administers of SERP Plan

On duty Regional Operations Leaders and Operational Coordinators make up the Emergency Control Organisation (ECO) to Lead, Coordinate and Support all activities effectively.

Name	Position	Contact number
[redacted]		

3. Emergency Numbers

Name	Contact Number / Information
Police, Fire, Ambulance	000
WA Regulator – Emergency	(08) 9346 3333
DEFS General Emergency Line	13 3337
Water Corporation	13 13 75
Poisons Information	12 11 26
DWER Pollution Hotline	1300 784 782
Thuroona Emergency	1300 848 766

4. Personal Emergency Evacuation Plans (PEEPS)

PEEPS address situations where identified individuals may need specialty assistance with evacuation from the site.

No personal are identified at the Wattleup Depot as requiring specific assistance.

5. Neighbouring Organisations

Organisation Name	Contact Number / Information
[redacted]	

4. Communications

1. Communication During an Emergency

In the event of an emergency it is important ECO members know how to communicate amongst each other for vital information. This may include one or more of the following methods;

a. Landline
b. Mobile Phone
c. Satellite Mobile Phones

2. Master Emergency Communication Point

A Master Emergency Communication Point is a designated location within, or in close proximity to a building from where the Chief Warden will direct all emergency control operations during a period where an incident impacts on, or could impact on, the safety and well-being of site occupants.

The Master Emergency Communication Point for this site is located at the most South East Corner of the yard within the internal access road.

3. Media Enquiries

All Media enquiries regarding HazRad people, property or business activities should be directed through the Media and Communications at enquiries@hazrad.com.au. Hazrad Personnel shall not make comment to media and provide the above email address to the person making the enquiry.

5. Risk Management

Fulfilment of the due diligence obligations within safety related legislations is premised upon HazRad undertaking the systematic identification and management of potential business interruption risks which could also include scenarios with safety consequences.

Whilst the workplace Leaders are accountable for the workplace operations including the safety of Assets and Personnel, the ECO can positively contribute to the identification and management of those risk scenarios arising internally or externally to the workplace/site or have the capability to affect other workplaces/sites which could require organised emergency response.

Four (4) broad categories of emergencies (source causation) are presented to help organise the risk assessment process:

1. Human

Bomb; bomb threat; site invasion/armed intrusion; personal threat; chemical, biological and radiological/nuclear incidents; civil disorder; medical emergency; arson, explosion; suspect object.

2. Natural

Bushfire/grass fire; cyclones, including storm surge; earthquake; explosion; fire and smoke; flood; severe weather/storm damage.

3. Technological

Hazardous substances incidents (specifically health related issues, zoonoses, lead, etc.); industrial incidents; structural instability; transport incidents; toxic emissions.

4. High Risk Work

Forklift operations, Confined Space Entry, Working at Heights (i.e. using harnesses), Using overhead cranes, electrical work, asbestos removal and storage

5. Risk Management Process

a. The risk management process should Identify the possible consequences of each emergency to Personnel within the workplace/site and their vulnerability before, during and after the emergency.

   I. Decide which types of potential emergencies are to be included in the emergency plan, potential emergencies scenarios for inclusion in the emergency plan may also be identified from documentation such as fire safety engineers' reports, fire safety plans, other safety reports and risk assessment reports.

   II. Identify the state legislative obligations for each type of emergency and any specific control mechanisms such as equipment or competencies, First Aid facility risk assessments, identify Emergency Response Team members with competencies to address specific emergency scenarios from High Risk Work identified.

b. Identify the target audiences and methods for communication implementation of the systems and procedures e.g. the Workplace Leaders must ensure there is equipment and plans for rescue from heights are built into applicable Job Safety and Environmental Assessment, Safe Work Method Statement or relevant Permit Systems etc. but the ECO members should be aware of these processes in the event their assistance is required to respond to an emergency situation.

c. Any personnel who is performing the role of Chief Warden or Deputy Warden who has received the required training as specified in AS 3745-2010 and received instructions consistent with the legislative requirements are expected to behave in a competent and responsible manner.

d. It should be clearly understood that the primary duty of the Chief Warden or Deputy Warden and personnel is NOT to combat emergencies but to ensure, to the best of their ability, the safety of the personnel and the orderly evacuation from danger when appropriate.

e. Workers appointed as Wardens shall:

   I. Be physically capable of performing their duties;

   II. Be available to undertake their appointed duties;

   III. Have leadership qualities and command authority;

   IV. Be familiar with their future areas of responsibility;

   V. Have a clear diction and be able to communicate with the majority of personnel in their work area;

VI. Have maturity of judgment, good decision-making skills and capable of remaining calm under pressure.

f. The following procedures are meant to provide a basis for response to various types of Site emergencies. They should NOT be regarded as rigid but rather as flexible guidelines to be adapted to cope with unanticipated situations. The procedure shall be implemented when:

I. There is an unplanned event which requires the assistance of Emergency Services to control the incident.

II. There is an evacuation.

III. There is a possibility that an event may further develop requiring one or both of the above to occur.

6. Definitions

a. The word 'shall' indicate that the statement is mandatory.

b. Emergency Control Organisation - is a structured group of Workers that is responsible to manage events that may occur during an emergency or exercise.

c. Emergency – is an event that arises internally, or from external sources, which may adversely affect the Personnel at a site, and which requires an immediate response. An emergency is a situation that poses an immediate risk to life or health. Most emergencies require urgent intervention to prevent a worsening of the situation, although in some situations, mitigation may not be possible, and agencies may only be able to offer palliative care for the aftermath.

d. Emergency Response Team (ERT) (AS 3745) - Specialist Personnel appointed to attend specific incidents, to contain, control or eliminate the emergency using emergency response equipment and plans. Should be identified in the Risk Assessment phase.

e. Emergency plan – is a written documentation of the emergency arrangements for a site, generally made during the planning process. It consists of the preparedness, prevention and response activities and includes the agreed emergency roles, responsibilities, strategies, systems and arrangements.

7. References

The Leaders should liaise with the HSSE Department to ensure the requirements of the following are considered in the risk assessment and planning phase for formulating their Site Emergency Response Plan.

a. Australian Standard 3745-2010 Planning for Emergencies in Facilities.

b. Applicable State Building Fire Safety Legislation.

c. Applicable State Fire and Rescue Service Legislation.

d. Applicable State Environmental Protection Legislation .

e. Applicable Work Health and Safety Legislation.

f. HOWED for the Hazrad Safety Management System documents.

8. Emergency Team

During emergencies, instruction given by the Wardens shall take precedence over the normal management structure. The Chief Warden is responsible for the management of the event in an emergency the control, command and coordination of emergency actions.

The table below outlines the responsibilities and activities for the Wardens positions.

The Chief Warden may at times also perform the role of an Incident Commander at an HazRad site. This is the Person with the authority to command and coordinate resources on behalf of HazRad and liaise with Emergency Services.

Type	Activity
Pre-Emergency	▪ Liaise with HazRad's Facilities Management to ensure Emergency equipment is to Standard and being maintained ▪ Liaise with the site manager to ensure local risk assessment processes address potential emergency response needs and capabilities. ▪ Conduct regular exercises ▪ Ensure emergency response plan and procedures are up to date ▪ Annually (minimum) address the SERP with site safety committee ▪ Attend training and emergency exercises
Post-Emergency	▪ When advised the incident site is safe, or Emergency Services return control, notify Workers return to the site ▪ Schedule a debrief within 2 weeks of the event or exercise ▪ Prepare an action plan for any issues identified through the debrief
Emergency	▪ Respond to the alarm and take control as appropriate ▪ Ensure appropriate Emergency Services has been notified ▪ Ensure Floor Wardens, Area Wardens and Wardens are advised of the incident ▪ Brief Emergency Services upon their arrival of the status of the incident, including any Workers requiring assistance

The Deputy Wardens undertake the following activities.

Type	Activity
Pre-Emergency	▪ Coordinate the completion of PEEP documentation ▪ Report any deficiencies of emergency equipment ▪ Ensure emergency response procedures are communicated within their area ▪ Attend training and emergency exercises
Post-Emergency	▪ Assist in coordinating evacuation activities, taking direction from Chief Warden ▪ Maintain contact with Chief Warden through nominated communication method i.e. radio, mobile phone etc. ▪ Checking areas and assisting with evacuation ▪ Report any persons requiring assistance to the Chief Warden

Type	Activity
	▪ Advise Chief Warden once Floor / Area is clear and all Workers have moved to the Muster Point.
Emergency	▪ Upon advice from Emergency Services / Chief Warden the incident site is safe, notify Workers to return to the Site ▪ Participate in the after incident / exercise debrief ▪ Update local plans or procedures following the debrief activity

The First Aiders undertake the following activities.

Type	Activity
Pre-Emergency	▪ Maintain appropriate training qualification ▪ Attend training and emergency exercises
Post-Emergency	▪ Assist Personnel or occupants requiring assistance in evacuation activity if safe to do so ▪ Remain with those Personnel who are unable to evacuate, where it is safe to do so ▪ Advise Wardens of any Personnel who are injured or unable to safely move to the Muster Point.
Emergency	▪ Participate in the after incident / exercise debrief ▪ Update local plans or procedures following the debrief activity

The following colours should be used to identify Personnel, in accordance with AS3745-2010.

Position	Hard Hat Colour
Chief Warden	▪ White
Deputy Warden	▪ Yellow
First Aiders	▪ White cross on a green back ground

1. Indemnity

HazRad has an indemnity in place in favour of HazRad personnel that protects them against civil liability resulting from their participation in Emergency activities where the Workers act in good faith and in the course of their emergency control duties.

2. Implementing Emergency Procedures

It is essential that all levels in HazRad accept and participate in the implementation and maintenance of these emergency procedures. The emergency procedures *shall* form part of the culture of Hazrad and forms part of our journey to ZeroHarm.

Instruction given by trained Wardens, during drills or emergency situations, *shall* override the normal management structure however such instruction must be issued consistent with HazRad's Code of Conduct.

The following *shall* apply in implementing these procedures;

a. The emergency procedures shall form part of the routine management arrangements of HazRad functions;
b. To ensure that those affected by these procedures are aware of them, information shall be provided about the procedures;
c. Training schedule that ensures relevant training shall be provided to nominated wardens and all other Personnel, the training shall be formalised;
d. At all stages of the implementation process, responsible Leaders / Wardens shall monitor the effect of the procedures on Personnel;
e. Where it is identified that the procedures have deficiencies or inaccuracies, the responsible Leader / Warden shall make amendments to rectify deficiencies;
f. The procedures shall be tested annually in a series of evacuation exercises in line with the risks for this site;
g. Responsible Leaders / Wardens shall document and record all evacuation exercises the document shall capture actions and lessons learnt.

3. Detection of an Emergency

Any personnel performing the role of a Warden who has received the required training as specified in AS 3745-2010 *shall* raise the alarm and to the best of their ability ensure the safety of the personnel and conduct an orderly controlled evacuation.

IF SAFE and the Warden/s have the required training an attempt can be made to control the incident until the emergency services arrives or the area is safe.

4. Evacuation

There shall be a minimum of two (2) designated Muster Points and each designated area shall be identified by a sign that states “Muster Point”.

Should the nature of the situation prevent either of these locations being used, the Warden shall designate another location. The Warden shall also decide which evacuation route to take as shown on the site map.

When the evacuation alarm is raised, employees shall initiate shut down procedure(s) and make secure any plant and equipment and move in a quiet and orderly manner, directly to the designated Muster Point. Personnel hearing the alarm shall advise any Personnel working in the area who may not have heard the alarm, and then proceed to the Muster Point.

Upon arrival at the Muster Point, personnel shall remain at this point so that their whereabouts can be accounted for.

At the Muster Point, the Warden or nominated person shall check off Personnel as they arrive using the roster, sign on sheets or other applicable process. All Personnel not accounted for at the Muster Point shall be treated as missing. This information shall be passed onto the Emergency Services upon their arrival.

No Worker shall enter the site until the Emergency Services have given the “All Clear”

5. Personal Emergency Evacuation Plans (PEEP)

Personal Emergency Evacuation Plans (PEEPs) must be compiled for each identified Worker with a disability. The procedures must also include the details of the personnel nominated to be the designated assistant/s. Information on the PEEP shall be disseminated to all Personnel responsible for its implementation. PEEPs are held with this SERP.

6. Outside Normal Working Hours (if applicable)

If an incident occurs in the immediate area that could impact on personnel's safety or if the emergency warning system sounds outside normal working hours, personnel working at the site should alert others in their area (if it is safe to do so), activate the emergency warning system by any available means, notify the relevant Emergency Service on (0) "000" and leave their area and proceed to the Muster Point.

If the primary Muster Point (or secondary) is in a remote location where personal safety may be placed at risk it is advisable, and if it is safe to do so, for the personnel to remain in a well-lit area in close proximity to the site entrance where they can also pass on any relevant information to the responding Emergency Service.

Do not re-enter the site until directed that it is safe to do so by Emergency Services.

If the alarm sounds or an incident occurs outside normal working hours, and the Personnel with a special need and cannot proceed to the Muster Point, telephone the Emergency Services on 000 and pass on relevant information including their exact location at the site.

7. Raise The Alarm

To notify Emergency Services Dial – (0) 000

State the following details:

a. Your name
b. What service you require (Police, Fire or Ambulance)
c. Your location, nearest cross street and State e.g. Cocos Drive & Barberry Way, WA
d. Nature of the emergency
e. Approximate number of injured (if any)

Notify the Leaders / Wardens and other personnel of emergency and conduct evacuation if required.

9. Evacuation Procedure

a. Wardens *shall* have rosters; visitors log and this procedure when conducting an evacuation.

b. Under direction of the Wardens, all personnel are required to move in a quiet and orderly manner to the designated Muster Point.

c. All personnel whilst exiting a multi-storey building, shall use the handrails available and remain in single file down all stairs to the Muster Point.

d. Workers with PEEPs shall be assisted by a Warden or Nominated Person to the Muster Point.

e. Warden shall take visitors sign in book to the Muster Point, if applicable.

f. Upon arrival at the Muster Point, personnel shall report to the Warden to be accounted for.

g. Remain at the Muster Point until instructed otherwise.

h. If any personnel cannot get to the designated Muster Point, they must report to the Warden as soon as possible.

i. Missing Personnel will be reported to the Emergency Services.

j. Personnel shall not re-enter the site until "*all clear*" has been given by Emergency Services or the Chief Warden

k. Evacuation Options – Full Evacuation, Partial Evacuation, Shelter-in-Place

Note: **Advise adjacent neighbour if the emergency will impact them.**

10. Fire and Safety Equipment

1. Fire and or Smoke

REACT

R – Remove (evacuate) Workers from immediate danger - **IF SAFE**

E – Ensure doors and windows are closed to contain smoke and fire.

A – Activate the alarm – Alert Others.

C – Call the Emergency Services (0) 000.

T – Try to extinguish the fire – **If trained and safe to do so.**

PASS

P – Pull out the extinguisher's safety pin – PRE TEST EXTINGUISHER.

A – Aim the nozzle at base of fire.

S – Squeeze the trigger.

S – Sweep the nozzle from side to side whilst discharging

If fire gets too big to extinguish, close the door to slow the spread of heat and smoke.

Notify Emergency Services of missing personnel.

Workers must not re-enter the area until the "all clear" has been given by Emergency Services.

2. Extinguisher Guide

Extinguisher identification chart

Type of Fire			Ordinary Combustable (wood, paper, plastics etc)	Flammable & Combustable Liquids	Flammable Gases	Fire Involving Energised Electrical Equipment	Fire Involving Cooking Oils	
New Colour Coding	Previous Colour Coding	Type of Extinguisher	EXTINGUISHER SUITABILITY					Cautions
 Red	 Red	Water	Yes	No	No	No	No	Electrically Conductive
 Red / Oatmeal Band	 Oatmeal	Wet Chemical	Yes	No	No	No	Yes Most Suitable	Electrically Conductive
 Red / Blue Band	 Blue	Alcohol Resistant Foam	Yes	Yes Suitable for Alcohol Fires	No	No	Yes	Electrically Conductive
		AFF Type Foam	Yes	Yes Not suitable for Alcohol Fires	No	No	Yes	
 Red / White Band	 Red / White Band	AB (E) Dry Chemical Powder	Yes	Yes	Yes	Yes	No	
		B (E) Dry Chemical Powder	No	Yes	Yes	Yes	Yes	
 Red / Black Band	 Rec / Black Band	Carbon Dioxide (Co2)	Yes	Yes	No	Yes	Yes	Depletes Oxygen in Confined Space

3. Hydrant

Hydrant Operation – For Fire Department

Hydrant location below, as per Hazrad Waste Facility Wattleup Fire & Emergency Management Plan

4. Fire Blanket Operation

A fire blanket consists of a piece of fire-resistant fabric, usually a woven glass fibre,

Fire blankets are often installed in kitchen areas where small cooking fires may occur.

A fire blanket can be used to:

a. Smother a small fire;

b. Wrap around a Person whose clothing is alight;

c. Wrap around yourself for protection should you be required to go past or through a hazard to get to an exit.

When using a fire blanket:

d. Hold it in front of you, with the fabric rolled back at the edges to protect hands;

e. Place the bottom of the blanket on the near side of the fire;

f. Lay the blanket gently over the fire and then tuck in the edges of blanket to seal around container;

g. Turn **OFF** heat source;

h. Do not remove fire blanket for a minimum of two hours or until container is cool enough to touch.

i. Dispose of blanket after use and replace with new one;

j. Conduct follow up procedures.

11. THREAT- Bomb, Chemical, Biological or Radiation

In the event that you receive a threat by phone:

a. Remain calm - fill in Threat Checklist.
b. Engage the caller in conversation.
c. Use the Threat Checklist (next page) to gather as much information as possible.
d. **DO NOT HANG** up the phone, leave line open.
e. **NEVER USE** mobile phone or radio to contact people.
f. Alert other Workers while on the phone to raise the alarm - Dial (0) 000
g. Notify the Supervisor.
h. Commence evacuation. **Leave all doors and windows open**, visually check area for suspicious articles while leaving the site. Pay attention to Muster Points.
i. Provide Threat Checklist details to Emergency Services.

In the event that the bomb or suspicious article is located:

a. Follow Hot or Not Procedure, Follow the **HOT** principle
b. Is it:
    i. **H**idden
    ii. **O**bvious
    iii. **T**ypical
c. Raise the alarm Dial – (0) 000.
d. Do not operate any electrical or electronic devices in the area.
e. Commence evacuation while conducting ground to waist, waist to roof / ceiling search until the Muster Point is reached.
f. Contact Site Management giving full details of nature and location of the suspect package.

1. Bomb or Other Threat Checklist

BOMB THREAT QUESTIONS	
When is the bomb going to explode?	
Where did you put the bomb?	
What does the bomb look like?	
What kind of bomb is it?	
What is in the bomb?	
When did you put it there?	
What will make the bomb explode?	
Did you place the bomb?	
Why did you put it there?	
What is your name?	
Where are you/what's your **address**?	
SUBSTANCE THREAT QUESTIONS SUBSTANCE THREAT QUESTIONS	
What kind of substance is in it?	
When will the substance be released?	
Where is it?	
What does it look like?	
When did you put it there?	
How will the substance be released?	
Is the substance liquid, powder or gas?	
Did you put it there?	
Why did you put it there?	
What is your name?	
Where are you/what's your address?	
CALLER'S VOICE	
Sex of caller	
Accent (specify)	
Speech impediments (specify)	
Voice (loud, soft, and so on)	
Speech (fast, slow and so on)	
Dictation (clear, muffled, and so on)	
Manner (calm, emotional, and so on)	
Did you recognise the voice?	
Was the caller familiar with the area?	

THREAT LANGUAGE		BACKGROUND NOISE	
Well spoken		Street noises	
Incoherent		House noises	
Irrational		Aircraft	
Taped		Voices	
Message read by caller		Music	
Abusive		Machinery	
Other:		Other:	

EXACT WORKING OF THREAT

ACTIONS			
REPORT CALL IMMEDIATELY		PHONE NUMBER	

12. Medical Emergency

In the event of a medical emergency:

a. Assess the situation, check for danger to yourself and others.
b. Check for a response from the victim.
c. Raise the alarm - Dial (0) 000.
d. If safe to do so, commence First Aid.
e. Stay with the victim. Send for assistance.
f. Notify your Supervisor.
g. The Supervisor is to advise Manager, Manager will discuss with the Principal Safety Partner to determine notification requirement for Work Health & Safety in the relevant state.
h. Complete any follow up procedures.

13. Severe Weather Events

During a severe weather event:

a. Remain calm and try to reassure others.
b. The safest place is to remain in the building.
c. When indoors:
    i. Stay away from any glass
    ii. Locate on the side of the floor opposite from where the severe weather event is occurring, if safe to do so
    iii. If in a multi-storey building and your floor is affected, relocate to a lower floor if safe to do so.
    iv. If the room in your building is affected, relocate to another room, if safe to do so.
d. Do not use elevators
e. Do not use electrical equipment
f. Do not use mobile phones or devices
g. Listen to announcements from the Chief Warden (if applicable).

After a severe weather event.

a. Stay away from windows or items that could fall or have been affected by the event
b. Listen to announcements from the Chief Warden (if applicable)
c. If safe evacuate Personnel.
d. If safe render assistance to injured Workers.
e. Treat all electrical wires as live.

14. Earthquake

During an Earthquake.

a. Remain calm and try to reassure others.

b. The safest place is an open space away from a building (site) and away from trees and other structures.

c. If indoors stay there.

   i. Stay away from any glass, mirror, glass walls, windows.

   ii. Lie down beside a weight bearing wall, beside strong furnishing, this creates a wedge if the roof dislodges and will provide protection.

   iii. Protect your head and neck

   iv. Try to stay away from shelves, racks, book cases and cabinets etc.

d. Do not use elevators.

After an Earthquake.

a. Stay away from windows or structures that could fall.

b. Turn off electricity, gas and water.

c. Raise the alarm – Dial (0) 000.

d. NO SMOKING.

e. If safe evacuate Personnel.

f. If safe render assistance to injured Personnel.

g. Put out small fires.

h. Treat all electrical wires as live.

i. Expect aftershocks.

15. Personal Threat

a. If you or another Worker receives a threat in person or via phone it is important to alert someone around you.

b. Do not place yourself at risk.

c. Do not escalate the situation.

d. Get someone to discretely notify security or your Leader or the Chief Warden.

e. Keep a safe distance between yourself and the offender.

f. Take note of exits and try to keep an eye on these and try to move towards the exit.

g. Record description of offender and record details of discussion / interaction as soon as possible.

h. If confronted by an armed intruder, obey the offender's instructions, but do only what is told and nothing more, and do not volunteer any information.

16. Dangerous Goods and Hazardous Material

POINTS TO CONSIDER IN THE EFFECTIVE MANAGEMENT OF A HAZARDOUS MATERIALS/DANGEROUS GOODS EMERGENCY

In an EMERGENCY call 000.

Apply these steps to Emergency Response:

- Raise the alarm – Move upwind and get help.
- Identify products - UN Number, Proper Shipping Name or Technical Name from any available documents or placards
- Seek and utilise expert advice (Rail, Trucking, Logistics, Safety and Health, Environment), specialised equipment and technical expertise (DG specialists). Call the consigner 24 Hour Emergency Number (See page 4 Emergency Numbers).
- Refer to SAA/SNZ HB76 (2010) – Dangerous Goods Initial Emergency Response Guide. Consult the appropriate guide
- Secure the area – Establish a hazard zone that prevents danger to others ie: if necessary, evacuate and position wardens to prevent access to the hazard zone
- Approach with care – Stop and think – do not rush in! If necessary, approach from upwind. Stay clear of spills, vapours, fumes smoke and suspicious sources
- Assess the situation – Is anyone injured? Can they be safely treated/retrieved/rescued?
- Is there a fire? is an extinguisher adequate?
- Is there a spill? Can you control and contain it? What are the weather conditions?
- What is the terrain/ground conditions?
- Assess the risk to people, property, Environment Is public protection necessary?
- What resources are required?
- What can be done immediately to reduce the threat? Is traffic control required?
- Respond – Activate the formal emergency response plan and continually assess the situation

For Spills – if it is safe to do so, Apply the three C's

- CONTROL – Control the spill at its source - Turn off valves, place containers upright
- CONTAIN – Contain the spillage to as small an area as possible. Utilise spill kits contents, mobilise the spill container, utilise the loader to dump soil and absorb a spill. Create diversions away from drains. Place drain covers over drains
- CLEAN UP – Engage the contracted DG spill clean-up responder. Dispose of material as per waste regulations

17. Electrical Incident

If Safe

a. Shut down the operation of all Plant, Equipment and appliances that operate with an electrical motor to prevent them from burning out or possibly catching fire.

b. Contact Facilities or Emergency Services to advise of electrical fault.

   I. David Reddie – 0497 007 081

   II. Emergency Services - 000

c. Turn off main switch at the site's main electrical switchboard cabinet until power returns to normal supply.

Electrocution (Suspect Still Attached to Live Power)

a. Do not panic.

b. Turn off the power to the area.

c. Raise the Alarm

d. Assess any other dangers.

e. If Safe To Do So: Conduct rescue as per training.

Note: Move casualty clear and perform emergency first aid and send someone to call Emergency Services on (0) 000.

18. Environmental Incident

Environmental Incident is any event, which has, or has the potential to have, a negative impact on the environment or causes environmental harm. **IF SAFE TO DO SO**

ASSESS

Do you need assistance? If the situation is serious contact your Supervisor.

CONTAIN

Quickly place booms around the spill and secure firmly.

PPE

Identify the liquid. Check Safety Data Sheet (SDS) for appropriate PPE to wear.

ABSORB

Once the spill has been contained, use the loose particulate or pads to absorb the liquid.

DISPOSE

Use the disposal bags and ties to collect all used products. Check with Supervisor for final disposal instructions.

RESTOCK

Inspect and restock the Spill Kit as soon as is possible.

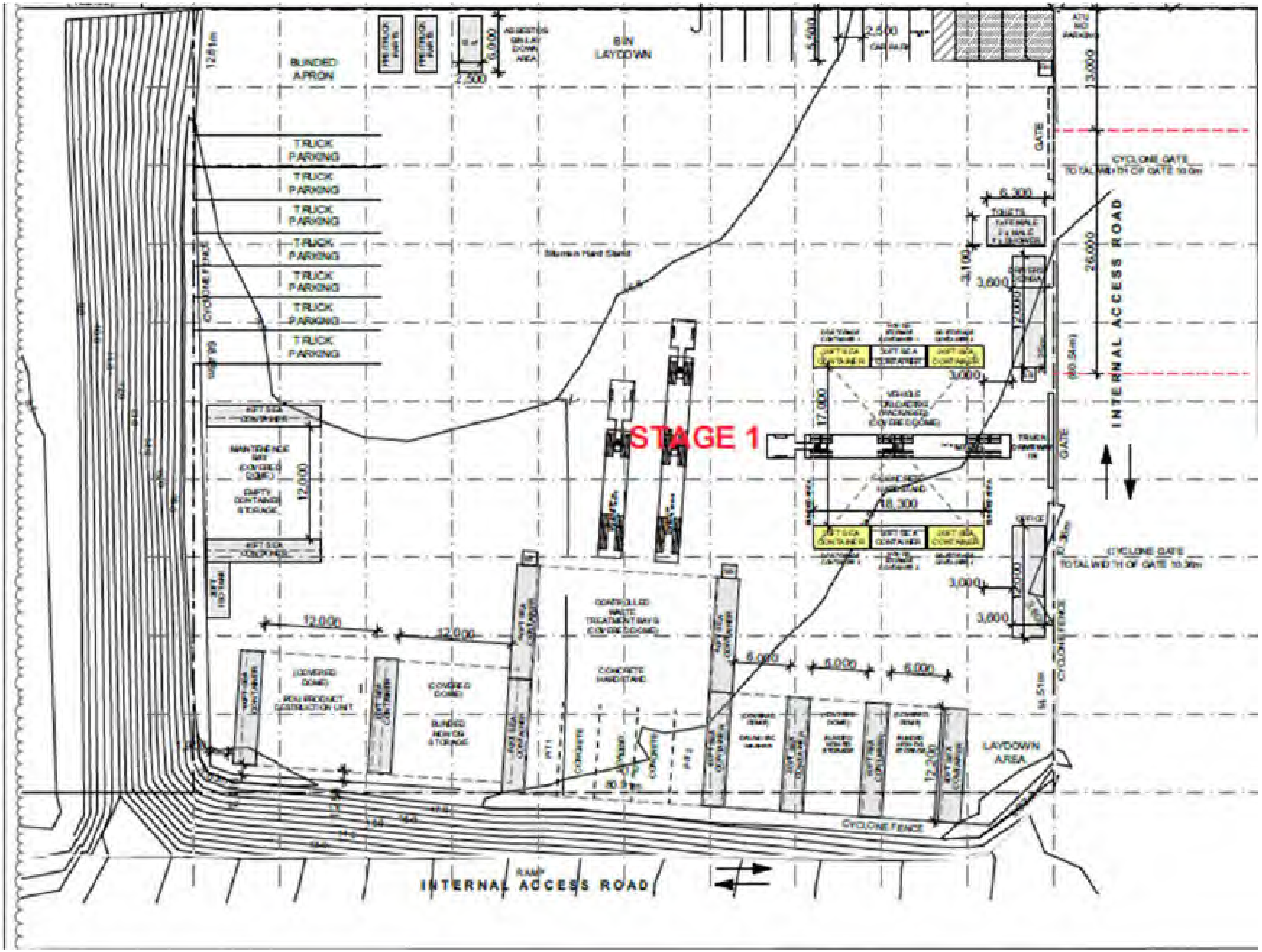
Report all spills/leaks to Supervisor

AND

HazRad Principal Environmental Scientist (Ashley Sheardown 0429 647 698)

If the spill has contaminated land or come into contact with an un-sealed surface, contact the Environment Team to get further advice on the appropriate restoration of the site.

19. Site Map



BUNDED APRON
BIN LAYDOWN
TRUCK PARKING
TRUCK PARKING
TRUCK PARKING
TRUCK PARKING
TRUCK PARKING
TRUCK PARKING
TRUCK PARKING
STAGE 1
GATE
INTERNAL ACCESS ROAD
CONCRETE HARDSTAND
LAYDOWN AREA
RAMP
INTERNAL ACCESS ROAD

End of Document

10.8. Attachment 8H – HazRad Wattleup Odour Management Plan

ODOUR MANAGEMENT PLAN

13 Musson Rd,
Wattleup, WA 6166

Issue Date: 19th March 2023

1.1 Table of Contents

1.2 Objectives

The objective of this Odour Management Plan is to ensure that HazRad Australia is operating the Hazardous Waste Transfer Station in a manner that minimises the potential impacts of odour within its vicinity and on neighbouring sites.

The requirements for the Odour Management Plan is to include a description of all potential odour source and identify how odour control measures will be adopted to limit odour release.

Activities to manage potential odours from the operations will include identification of odour sources, odour monitoring, odour controls, complaint procedures, contingency planning and consultation.

The requirement is to 'implement the control measures', which means that all operations must follow the documented procedures to keep odour emissions within the levels necessary to meet the objective.

1.3 Continual Improvement

A goal of continuous improvement in regards to odour emission management is adopted at the facility. Regular review of odour management controls, through review of the risk register will occur with feedback to the relevant parities.

1.4 Potential Odour Sources

Following a detailed review of site operations HazRad has identified potential odour sources that could occur and has quantified the potential impact of these odour sources using the Hazrad internal risk management procedure. The potential odour sources have been ranked according to their inherent risk rating and is reflected in the list below.

- Shandy Fuel Mixes
- Waste Receival and Storage in the Facility

1.5 Odour Monitoring (Detection)

The following odour monitoring will occur to ensure that all controls are effective

- Weekly checklist of controls on potential odour sources
- Weekly odour tours of surrounding areas conducted to determine if potential odour sources are leaving the site

1.6 Controls of Potential Odour Sources / Detection / Controls

As part of the risk management procedure controls have been identified and implemented to ensure that all potential odour sources are controlled and do not impact on neighboring properties. The controls have been broken down into areas of potential odours sources which are listed below.

1.6.1 Shandy Fuel Mixes

- Vented DG containers as per DG regulations
- Open doors during decanting for maximum airflow during dispensing

1.6.2 Waste Recieval and Storage in the Facility

- All waste received are to be delivered within the confines on the waste receivables warehouse in order to control the potential for odour release.
- The warehouse roller door must be closed except when a vehicle or person is passing through the doorway. Receival hall roller doors 2 & 3 inclusive located on the western wall of the receival warehouse should be opened to allow maximum air flow through the warehouse should it permit
- Where possible, each day's waste is to be processed on the same day to minimise the amount of waste left in the receival building overnight, and scheduled for servicing the following day

1.7 Complaint Handling

A free call telephone line through HazRad's main service line operates 24 hours a day 7 days per week. The details of all complaints received and actions taken in response to the complaints are kept on file. Complaints received via the hotline are investigated and responded to within the allocated time frame.

The information to be recorded as part of the investigation includes;

- Name of complainant;
- Contact details of complainant (e.g. telephone, email, postal address);
- Location, date and time at which alleged environmental impact occurred (street address);
- A general description of the nature of the environmental impact, including the following where applicable:
- Duration and any pattern;
- Character of odour;
- Whether there were any adverse health effects related to the environmental impact;
- What response has been requested or expected by complainant from Hazrad (e.g. a return phone call);
- The likely source(s) of the cause of the complaint; and
- What the weather conditions (e.g. wind speed, wind direction, temperature) were like at the time of the alleged environmental impact.

All records of complaints are kept for a minimum of 4 years after the complaint is made, and can be produced upon request.

1.8 Contingency Plan

Ref No.	Source	Inherent Rating	Operational Control (s)	Responsibility	Measure of Success	Residual Risk
1	Storage and processing areas	12	During the processing and storing of waste materials air pollution from odour may occur.	General Manager & Site Supervisor	Packaged and bulk waste to be stored in sealed containers Waste materials accepted to be risk assessed prior to acceptance to identify odour or other risks General housekeeping practices will be implemented to prevent the accumulation of waste materials that may generate odour. Community notification will be undertaken where appropriate when work is likely to cause odour impact on the public.	6
2	Waste Receival doors damaged and cannot close	12	Ensure that the main waste receival doors are always operational and closed when not in use. Damaged doors are repaired within 72 hours.	All	Doors are closed unless a vehicle is passing through. Door repair completed within 72 hours	6
3	Excess waste received at the facility and processing capacity is exceeded and storage is not available	11	Divert waste loads to an alternate facility or schedule additional bin services	Site Supervisors & Site Staff	Monthly processing capacity matches or exceeds incoming.	5
4	Significant Rain Event – Storm or Severe Forecast	19	Upon alert from Bureau of Meteorology, review the site to ensure it is prepared for the rain event.	Site Supervisors & Site Staff	Operational readiness plans in place according to BOM forecast.	10
5	Odour Complaint received	12	Investigate source of odour, and limit	Compliance Officer	Compliance with complaints procedure.	6
6	Other doors in the facility	11	Doors to remain closed unless person or equipment transiting	Site Supervisors & Site Staff	Facility doors are closed unless a person or equipment is passing through.	5

1.9 Responsibilities

1.9.1 General Manager

- The site manager has responsibility for:
- Implementation of this plan
- Conforming with plan
- Training of staff in the plan
- Communication of the plan
- Reporting of incidents
- Ensuring corrective actions are taken

1.9.2 Site Supervisor

The site supervisor has the responsibility for:

- Ensuring adherence to this plan
- Conforming with site plan
- Reporting of incidents Implementing corrective actions

1.9.3 Site staff

All site staff have the responsibility for:

- Ensuring adherence to this plan
- Conforming with site rules
- Reporting of maintenance defects

1.10 Reporting of Incident Related Documents

DOCUMENT NAME	REFERENCE NUMBER
Incident Management Reporting Procedure	HAZ-IMS-PRO-003
Staff Training Procedure	HAZ-IMS-PRO-006
Waste Disposal Procedure	HAZ-IMS-PRO-018
Waste Acceptance Procedure	HAZ-IMS-PRO-033
Workplace Inspection Checklist (weekly)	HAZ-F0074
Site Management Plan V2	HAZ-00097

10.9. Attachment 8I – Wattleup Waste Processing Environmental Noise Impact Assessment

WATTLEUP WASTE PROCESSING ENVIRONMENTAL NOISE IMPACT ASSESSMENT

HAZRAD

Rpt01-AU01403-Rev2-20Mar2025

www.woodplc.com
Specialist Technical Services
Vibration, Dynamics and Noise

DOCUMENT CONTROL & REVIEW INFORMATION

Client: Hazrad

Client Contact: [redacted]

Wood Contact: [redacted]

Wood Office: Perth

Wood Job No: AU01403

VDN Document No: Rpt01-AU01403-Rev2-20Mar2025

Rev	Date	Description	Prepared	Reviewed	Approved	
					Proj Manager	Client
A	28/10/22	Issued for Review	[redacted]			
0	14/12/22	Issued for Use				
1	02/07/24	Issued for Use				
2	20/03/25	Issued for Use				

Item	Page	Section	Comments

** Use after Rev. 0*

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EXECUTIVE SUMMARY

Wood was commissioned by Hazrad to undertake an environmental noise assessment for the proposed operation of a waste processing plant at 13 Musson Road, Wattleup Western Australia. The facility is expected to operate during weekdays between 7am and 4pm.

Noise modelling has been undertaken to predict noise levels at eight nearby noise sensitive receivers (NSRs) surrounding the facility. This includes four residential receivers, one industrial receiver, and three recreational receivers.

One scenario has been modelled which represents the predicted noise levels in the surrounding area during standard operational hours. Both fixed and mobile plant equipment is modelled to run continuously through the hours of operation. Worst-case operational and meteorological conditions have been assumed in the model.

The predicted noise levels have been assessed against the Assigned Levels in the *Environmental Protection (Noise) Regulations* 1997.

The predicted results indicate the following:

- Noise levels at R3 are predicted to exceed the Assigned Levels by 0.2 dBA,
- Noise levels at all other receivers are predicted to be below the Assigned Levels.

The use of quieter mobile equipment around the facility could be considered to manage the exceedance predicted at R3. It is recommended that the equipment noise measurements and / or noise verification measurements at receivers are considered to reduce risk of exceeding Assigned Levels.

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Background

Hazrad are applying for a licence to operate a waste processing facility with WA's Department of Water and Environmental Regulation (DWER) and need to demonstrate compliance with the *Environmental Protection (Noise) Regulations* 1997.

This report is a revision of the previous ENIA '*Rpt01-AU01403-Rev0-14Dec2022 Hazrad ENIA*' submitted in 2022. Following new information received from Hazrad, several changes have been made to the fixed and mobile plant on site. These changes include:

- Replacement of the timber shredder with a SOYU Dual-Shaft Waste Shredder and a high-pressure water pump;
- Reduction of onsite truck quantities from 3 to 2;
- Inclusion of 1 x 10T Franna Crane; and
- Inclusion of 1 x Front End Loader.

1.2 Objectives & Scope of Assessment

The objectives of this assessment are:

- To quantify the predicted noise levels associated with the proposed waste processing at the nearby noise sensitive receivers;
- To assess the predicted noise levels against the relevant criteria
- To assess the likelihood of tonality being present in noise emissions from the facility operations; and
- Where relevant, give recommendations to assist with noise management.

This assessment addresses noise associated with the fixed processing plant equipment and the mobile equipment utilised during operations. The elevated noise levels are assessed against the Assigned Levels relevant to each noise sensitive receiver and if required, some general noise management options are advised. Assessment of baseline noise levels around the site is not included in the scope.

1.3 Applicable Documents and Regulations

[1] Western Australia Environmental Protection Act 1986;

[2] Western Australia *Environmental Protection (Noise) Regulations 1997*;

[3] Draft Guideline on Environmental Noise for Prescribed Premises, Department of Environment Regulation, May 2016.

2 SUMMARY OF RELEVANT LEGISLATION

2.1 Assigned Levels to Noise Sensitive Receivers

Noise management in Western Australia is implemented through the Environmental Protection (Noise) Regulations 1997 which operate under the *Environmental Protection Act 1986*. These regulations specify the maximum noise levels (Assigned Levels) which are the highest noise levels that can be received at noise-sensitive premises, commercial, or industrial premises. Table 2-1 presents the Assigned Levels.

Assigned Levels have been set differently for noise sensitive premises, commercial premises, and industrial premises. For noise sensitive premises, e.g. residences, an "influencing factor" is incorporated into the Assigned Levels. The influencing factor depends on land use zonings within circles of 100m and 450m radius from the noise receiver, including:

- The proportion of industrial land use zonings;
- The proportion of commercial zonings; and
- The presence of major or secondary roads.

For noise-sensitive residences, the time of day also affects the Assigned Levels. The regulations define three types of Assigned Level:

- L_{Amax} Assigned Level means a noise level which is not to be exceeded at any time;
- L_{A1} Assigned Level which is not to be exceeded for more than 1% of the time; and
- L_{A10} Assigned Level which is not to be exceeded for more than 10% of the time.

The L_{A10} noise limit is the most significant for this study since this is representative of continuous noise emissions from the waste processing facility.

Table 2-1 Assigned Levels

Type of premises receiving noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area	0700 to 1900 hours Monday to Saturday	45 + Influencing factor	55 + Influencing factor	65 + Influencing factor
	0900 to 1900 hours Sunday and public holidays	40 + Influencing factor	50 + Influencing factor	65 + Influencing factor
	1900 to 2200 hours all days	40 + Influencing factor	50 + Influencing factor	55 + Influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays	35 + Influencing factor	45 + Influencing factor	55 + Influencing factor
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80
Commercial premises	All hours	60	75	80
Industrial premises	All hours	65	80	90

2.1.1 Receiver Locations

Table 2-2 lists and classifies the NSRs that have been identified near the Hazrad facility:

Table 2-2 Noise Sensitive Receivers

Label	Name	Type
R1	[redacted]	Residential
R2		Residential
R3		Residential
R4		Residential
R5		Industrial
R6		Recreational
R7		Recreational
R8		Recreational

See Figure 2-1 for the locations of the NSRs outlined in Table 2-2.

Figure 2-1 Noise Sensitive Receiver Locations

2.1.2 Adjustments for Influencing Factors

To calculate influencing factors for each NSR, zoning maps for each NSR were constructed.

The only NSR which is close enough to major/secondary roads or industrial/commercial zonings which also requires consideration of influencing factors is R4. The influencing factor of R4 was calculated to be 1.

The Assigned Levels for receivers R1 to R5 are presented in Table 2-3.

Table 2-3 Assigned Levels at Nearby NSRs

Time of Day	Assigned Level – L_{A10} dB(A)				
	R1	R2	R3	R4	R5
0700 to 1900 hours Monday to Saturday	45	45	45	46	65
0900 to 1900 hours Sunday and public holidays	40	40	40	41	
1900 to 2200 hours all days	40	40	40	41	
2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays	35	35	35	36	

R6, R7, and R8 are considered parks and are assessed as recreational areas. There are no Assigned Levels for recreational receivers. For the purposes of this assessment, they will be assessed against a level of 55 dB(A).

2.1.3 Adjustments for Intrusive Characteristics

Received noise levels associated with Hazrad operations must be adjusted if the noise exhibits intrusive or dominant characteristics, i.e. if the noise is impulsive (e.g. banging), tonal (e.g. whining noise having a defined pitch) or modulating (e.g. noise which varies cyclically in either pitch or amplitude). Table 2-4 presents the adjustments required when intrusive or dominant characteristics cannot be reasonably and practicably removed. The adjusted noise levels must now comply with the assigned noise levels. Regulation 9 sets out objective tests to assess whether the noise is taken to be free of these characteristics.

Table 2-4 Adjustments for Intrusive or Dominant Noise Characteristics

Adjustment where noise emission is not music these adjustments are cumulative to a maximum of 15 dB		
Where tonality is present	Where modulation is present	Where impulsiveness is present
+5 dB	+5 dB	+10 dB

3 METHODOLOGY

3.1 Noise Model Program

A computer noise model has been developed for the operation of the proposed waste processing facility. The software used to develop the model is SoundPlan 8.2. SoundPlan has previously been accepted by the WA Department of Water and Environmental Regulation (DWER) as appropriate for environmental noise prediction.

The inputs required in SoundPlan are noise source data, barriers/screens, ground topographical absorption type data, assessed meteorological conditions, and receiver point locations.

This model has been used to generate predicted noise contour maps for the areas surrounding the Hazrad facility and to calculate noise levels at NSR locations.

3.2 Noise Model Algorithm

SoundPlan provides a range of published noise propagation prediction algorithms that can be selected by the user. The CONCAWE[1] prediction algorithms were selected as they are recommended by the WA DWER Draft Guideline.

3.3 Meteorological Conditions

SoundPlan calculates predicted noise levels for defined meteorological conditions. In particular, the following variables are included in the prediction algorithms and will affect the predicted noise level: temperature; Pasquill stability (temperature inversion); relative humidity; wind speed; and wind direction.

The "default meteorological conditions" as suggested by the WA DWER Draft Guideline have been used to determine the worst-case overall predicted noise levels, these are presented below in Table 3-1.

Table 3-1 Worst Case Meteorological Conditions

Period	Temperature	Pasquill Stability	Wind speed	Wind Direction	Relative Humidity
Day	20° C	Pasquill Stability E	4 m/s	Worst-case (source to receiver)	50%

[1] CONCAWE (Conservation of Clean Air and Water in Europe) was established in 1983 by a group of oil companies to carry out research on environmental issues relevant to the oil industry.

3.4 Ground Topography

Topographical information was obtained from Google Earth and is representative of the existing topography of the area.

The ground absorption was assumed to average out to 0.6 (0 is very hard/reflective and 1 is very soft/absorptive). This is due to the combination of surrounding bushland and the surrounding residential/industrial area.

3.5 Noise Sensitive Receivers

A summary of the NSRs and the limits that they will be assessed against is given in Table 3-2.

Table 3-2 Noise Limits for Assessed NSR's

Label	Name	Type	Assigned Level dB(A)
R1	[redacted]	Residential	45
R2		Residential	45
R3		Residential	45
R4		Residential	46
R5		Industrial	65
R6		Recreational	55
R7		Recreational	55
R8		Recreational	55

3.5.1 Site Location & Operation

The proposed Hazrad facility is located at 13 Musson Road, Wattleup Western Australia as shown in Figure 2-1. The noise modelling has assumed continuous operation of all equipment.

3.6 Noise Sources

Mobile equipment fleet, and the fixed plant equipment modelled in study have been based on information provided by Hazrad. Wood has used representative sound power levels from its own library where sound power levels were not available.

Hazrad have advised that the timber shredder has been replaced with a SOYU Dual-Shaft Waste Shredder and a High-pressure Water Pump.

A comprehensive list of all equipment and sound power levels is given in Appendix A.

3.6.1 Fixed Plant Noise Sources

The following fixed plant noise sources have been modelled for this study:

Equipment	Quantity Modelled	Location
SOYU Dual-Shaft Waste Shredder	1	Within Facility Boundary
High Pressure Water Pump	1	Within Facility Boundary

All fixed plant sources were placed at a height of 1.5m above the terrain level.

3.6.2 Mobile Equipment Noise Sources

The mobile equipment sources modelled for this study are shown in Table 3-3. All mobile plant sources were placed at a height of 1.5m above the terrain level.

Table 3-3 Mobile Equipment Modelled

Equipment	Quantity Modelled	Location(s)
Excavator	1	Waste Treatment Bays
All-Terrain Forklift	1	Unloading/Truck Driveway In
Truck	1	Unloading/Truck Driveway In
Truck	1	Truck Driveway Out
Front End Loader	1	Immediately North of Waste Treatment Bays
10T Franna	1	Within Facility Boundary

3.7 Modelled Scenario

One operational scenario was modelled representing the day time operation of the facility when both fixed and mobile plant are operational. Facility operation is not expected during the night period. Contributions from surrounding industrial facilities has not been considered in the noise modelling.

4 RESULTS

The predicted noise levels at each NSR are detailed in Section 4.1.

A noise contour illustrating the predicted noise levels in the surrounding area is shown in Section 4.3.

4.1 Scenario Predicted Noise Levels

The predicted noise levels at each receiver for Scenario 1 is summarized in Table 4-1.

Table 4-1 Predicted Noise Levels (Scenario 1)[2]

Receiver	Worst-Case Noise Levels in dB(A)		
	Assigned Level	Predicted Noise Level	Predicted Exceedance
R1	45	37.1	No
R2	45	41.7	No
R3	45	45.2	0.2
R4	46	41.1	No
R5	65	43.0	No
R6	55	49.3	No
R7	55	47.3	No
R8	55	27.2	No

4.2 Source Contribution

Table 4-2 presents the dominant noise sources contributing to the predicted exceedance at R3 during the modelled scenario. The table indicates that the FEL and trucks are the highest contributing noise sources to predicted noise levels received at R3.

Table 4-2 Dominant Noise Sources

Dominant Noise Sources	Contribution (dB(A))
Front End Loader (FEL)	39.3
Truck	39.2

[2] Cumulative noise impacts from other industrial facilities operating in the area have not been included in the receivers predicted noise levels.

Truck	38.7
Forklift	36.8
10T Franna Crane	35.4

4.3 Noise Contour

A noise contour was generated for the operational scenario described above. The contour illustrates the predicted noise levels at and in the vicinity of the receivers assessed in this report.

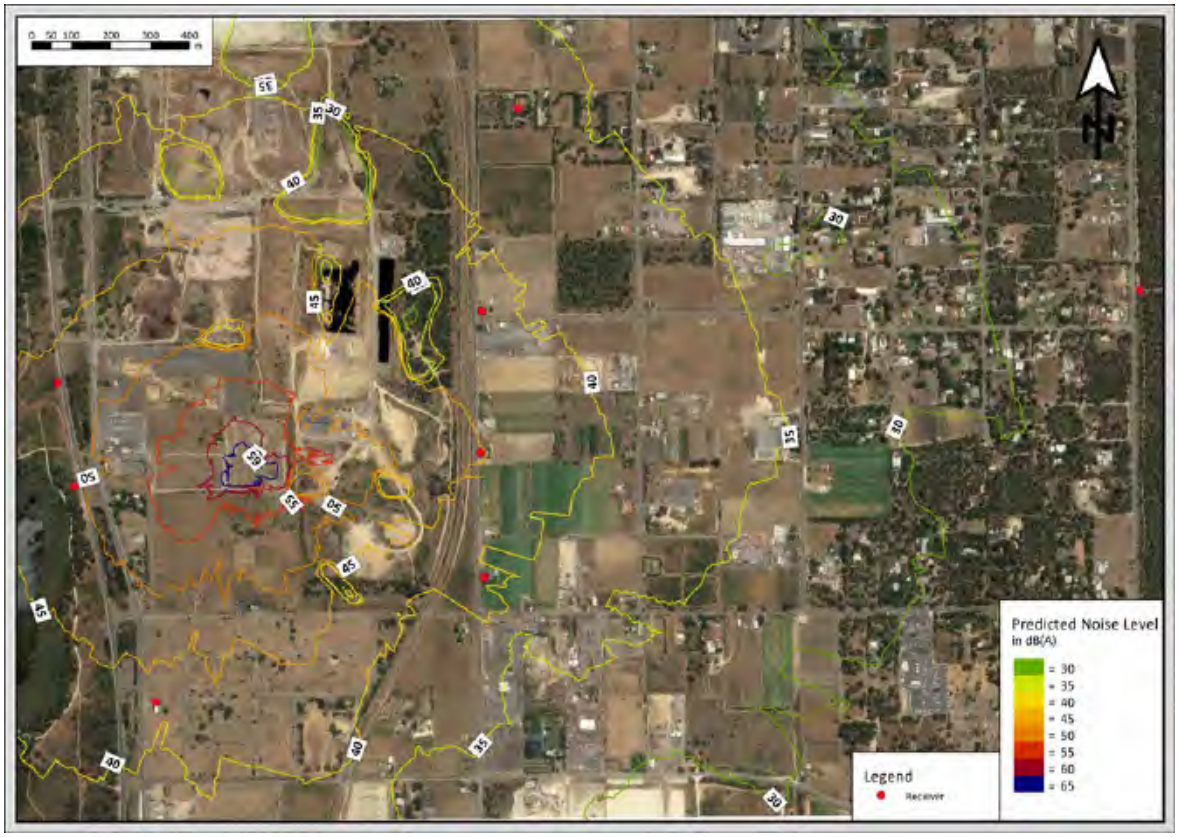

Figure 4-1 Plant Operation Noise Contour

5 DISCUSSION

5.1 Tonality Assessment

Tonality is likely to be present during times of low ambient noise levels (particularly in the night period). Noise sources such as wind, traffic, and surrounding industry are present during the day period, resulting in a relatively high ambient noise environment. The risk of tonality being emitted from the facility to receivers is expected to be low due to:

- Multiple broadband noise sources operating concurrently at the facility, and
- The receivers being situated in a relatively high ambient noise environment.

5.2 Impact Assessment & Noise Management

The results presented in Table 4-1 predict the following:

- Predicted noise levels at R3 exceed the Assigned Levels by 0.2 dBA during daytime operations.
- All other receivers are predicted to receive noise levels below the Assigned Levels and assessed limits.

Equipment Selection

The use of quieter mobile equipment around the facility could be considered to manage the exceedance predicted at R3.

Noise Measurements

It is recommended that the noise levels of the individual equipment are measured and / or noise verification measurements are conducted at receivers during commissioning to address the residual risk of R3 exceeding Assigned Levels. Noise verification measurements would also be able to determine the presence of tonality and quantify the noise contribution of other industrial premises operating in the area.

Noise controls should be implemented to reduce noise emissions where equipment noise levels are found to exceed the modelled noise levels or R3 is found to exceed the Assigned Levels.

6 CONCLUSIONS

Noise modelling has been undertaken for Hazrad's proposed waste processing facility at 13 Musson Road, Wattleup Western Australia.

One scenario has been modelled representing the day time operation of the facility when both fixed and mobile plant are operational. Modelling has predicted that the received noise levels at residential receiver R3 exceeds the Assigned Level by 0.2 dB(A). The noise levels at all other receivers are predicted to be below the Assigned Levels.

The use of quieter mobile equipment around the facility could be considered to manage the exceedance predicted at R3. It is recommended that the equipment noise measurements and / or noise verification measurements at receivers are considered to reduce risk of exceeding Assigned Levels.

APPENDIX A EQUIPMENT SOUND POWER LEVELS

Equipment Type	Model	SWL dB(A)	Octave Band Centre Frequency, dB(Z)								
			31	63	125	250	500	1000	2000	4000	8000
Fixed Plant											
SOYU Dual-Shaft Waste Shredder	SOYU SYU33120	102.2	102.4	99.5	104.6	102.0	100.2	98.6	85.4	88.7	66.3
High Pressure Water Pump	-	90.7	88.3	108.1	94.8	90.3	85.1	86.3	81.0	75.1	70.5
Mobile Equipment											
Excavator (12T)	-	97.6	86	91	92	96	95	91	91	87	82
All-Terrain Forklift (5T)	Manitou M-X 50-4	103.4	86.8	102.9	101.2	102.6	99.9	97.8	96.5	92.4	86.6
Idle Truck	Volvo 450	105.1	-	103	102	100	101	102	97	91	82
Front End Loader	-	105.7	99.3	106.1	106.1	103.4	102.6	101.2	98.3	92.6	84.4
10T Franna	-	101.9	114	110.8	105.6	99.8	97.9	97.6	94.1	88.9	82.4

11.0 ATTACHMENT 10: PROPOSED FEE CALCULATION

Refer to **Attachment 1, Section 13.**

The following fee estimate calculation is based on cost table below:

[redacted]

WATTLEUP Project Costs			
Item	**Qty**	**Rate**	**Amount**
20" Sea Container - 2PW HC	2.00	[redacted]	
40" DG Storemasta x 4	4.00		
40" Sea Containers	10.00		
Licencing – Assessments	1.00		
Misc - HP Hot/Cold Wash	1.00		
Plant - Forklift (Komastu 3Tn Rotator)	1.00		
Plant - Forklift (New TCM)	1.00		
Plant - ISO Tanks x 2	2.00		
Setup - Security, Networking, Comms	1.00		
Shredder - Conveyor, Auger	1.00		
Maintenance Dome	1.00		
5Tn Forklift	1.00		
Civils	1.00		
Spading Pits	1.00		
Dome - 6m x 40'	6.00		
Dome - 12m x 40"	3.00		
Dome - 18m x 80"	2.00		
Dome – Assembly	1.00		

12.0 REFERENCES

The following documents have been referenced in the preparation of this application and are also applicable to the ongoing operation of the proposed facility.

Legislation and Regulations

- Dangerous Goods Safety (Storage and Handling) Regulations 2007
- Environmental Protection (Controlled Waste) Regulations 2004
- Environmental Protection (NEPM-NPI) Regulations 1998;
- Environmental Protection (Unauthorised Discharges) Regulations 1987
- Environmental Protection (Noise) Regulation 1997
- Local Government Act 1995;
- Mines Safety and Inspection Regulations 1995
- National Greenhouse and Energy Reporting Act 2007;
- Occupational Safety and Health Act 1984
- Occupational Safety and Health Regulations 1996

Guidelines

- A Method for determining the compatibility of chemical mixtures. US EPA-600/2-80-076 April 1980. "EPA's Chemical Compatibility Chart".
- Bunding and Spill Management. SA EPA 088/16 May 2016
- Bunding: Vic EPA Publication 341.1 October 2015
- Guidance for the Assessment of Environmental Factors No.3. WA EPA June 2005 - Separation distances between industrial and sensitive land uses.
- Landfill Waste Classifications and Waste Definitions 1996, (as amended 2018)

Standards

- AS 1940-2004 *The Storage and Handling of Flammable and Combustible Liquids.*
- Department of Environmental Regulation: *(Draft) Environmental Standard: Composting: Division 3 Part V of the EP Act 1986*
- National Code of Practice for the Storage and Handing of Workplace Dangerous Goods [NOHSC: 2017 (2001)]