



Mr Randell Ford
MacPhersons Resources Limited
109 Maritana Street
KALGOORLIE WA 6430

Dear Mr Ford,

ENVIRONMENTAL PROTECTION ACT 1986: WORKS APPROVAL GRANTED

Premises: Nimbus Silver-Zinc-Gold Project Mining tenement M26/490 and M26/598
Works Approval Number: W5574/2013/1

A works approval under the *Environmental Protection Act 1986* (the Act) has been granted for the above premises. The Department of Environment Regulation will advertise the issuing of this works approval in the public notices section of *The West Australian* newspaper.

The works approval includes attached conditions. Under section 55(1) of the Act, it is an offence to contravene a condition of a works approval. This offence carries a penalty of up to \$125,000 and a daily penalty of up to \$25,000

In accordance with section 102(1)(c) of the Act, you have 21 days to appeal the conditions of the works approval. Under section 102(3)(a) of the Act, any other person may also appeal the conditions of the works approval. To lodge an appeal contact the Office of the Appeals Convenor on 6467 5190 or by email at admin@appealsconvenor.wa.gov.au.

Emissions from the premises that are the subject of a works approval are not authorised until or unless a licence is issued or unless the emissions are in accordance with the works approval and while that works approval is in force.

If you have any queries regarding the above information, please contact Sarah Collins on 9080 5555.

Yours sincerely

Kerry Laszig
Officer delegated under section 20
of the *Environmental Protection Act 1986*

13 February 2014

enc: *Environmental Protection Act 1986* Works Approval W5574/2013/1



Works Approval

Environmental Protection Act 1986, Part V

Works Approval Holder: MacPhersons Resources Limited

Works Approval Number: W5574/2013/1

Registered office: 109 Maritana Street
KALGOORLIE WA 6430

ACN: 139 357 967

Premises address: Nimbus Silver-Zinc-Gold Project
Mining tenement M26/490 and M26/598
KALGOORLIE WA 6430
As depicted in Schedule 1 of the licence.

Issue date: Thursday, 13 February 2014

Commencement date: Monday, 17 February 2014

Expiry date: Saturday, 16 February 2019

The following category/s from the Environmental Protection Regulations 1987 cause this premises to be a prescribed premises for the purposes of the *Environmental Protection Act 1986*:

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
89	Putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer, as amended from time to time) is accepted for burial.	More than 20 but less than 5 000 tonnes per year	810 tonnes per year

Conditions

Subject to this works approval and the conditions set out in the attached pages.


.....
Officer delegated under section 20
of the *Environmental Protection Act 1986*



Works Approval Conditions

1 General

1.1 Interpretation

1.1.1 In the works approval, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 In the works approval, unless the contrary intention appears:

'the Act' means the *Environmental Protection Act 1986*;

'code of practice for the storage and handling of dangerous goods' means the Department of Mines and Petroleum, 2010, *Storage and handling of dangerous goods — code of practice* (2nd edition): Resources Safety, Department of Mines and Petroleum, Western Australia;

'dangerous goods' has the meaning defined in the *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007*;

'Director' means Director, Environmental Regulation Division of the Department of Environment Regulation for and on behalf of the Chief Executive Officer as delegated under section 20 of the *Environmental Protection Act 1986*;

'Director' for the purpose of correspondence means;
Regional Leader - Industry Regulation (Goldfields)
Department of Environment Regulation
PO Box 10173
KALGOORLIE WA 6433
Telephone: (08) 9080 5555
Facsimile: (08) 9021 7831
Email: Kalgoorlie@der.wa.gov.au;

'environmentally hazardous material' means material (either solid or liquid raw materials, materials in the process of manufacture, manufactured products, products used in the manufacturing process, by-products and waste) which if discharged into the environment from or within the premises may cause pollution or environmental harm. Note: Environmentally hazardous materials include dangerous goods where they are stored in quantities below placard quantities. The storage of dangerous goods above placard quantities is regulated by the Department of Mines and Petroleum;

'Premises' means the area defined in the premises map in Schedule 1 and listed as the premises address on page 1 of the works approval;

'Schedule 1' means Schedule 1 of this works approval unless otherwise stated;

'Stage 1' means construction of trench one;

'Stage 2' means construction of trench two;

'Stage 3' means construction of trench three;

'Stage 4' means construction of trench four;

'Stage 5' means construction of trench five;



'Stage 6' means construction of trench six;

'Stage 7' means construction of trench seven;

'Stage 8' means construction of trench eight;

'Stage 9' means construction of trench nine;

'Stage 10' means construction of trench ten;

'Works Approval' means this Works Approval numbered W5574/2013/1 and issued under the *Environmental Protection Act 1986*;

'Works Approval Holder' means the person or organisation named as the Works Approval Holder on page 1 of the works approval;

1.1.3 Any reference to an Australian or other standard in the Works Approval means the relevant parts of the current version of that standard.

1.1.4 Any reference to a guideline or code of practice in the Works Approval means the current version of the guideline or code of practice.

1.2 General conditions

1.2.1 The Works Approval holder shall construct the works in accordance with the documentation detailed in Table 1.2.1.

Table 1.2.1: Construction requirements ¹		
Document	Parts	Date of Document
Nimbus Silver-Zinc-Gold Project - Works Approval Nimbus Landfill Facility, Macphersons Resources Limited.	All	26 November 2013
Works Approval for Nimbus Landfill Facility, Catherine Wharton, Macphersons Resources Limited.	All	2 December 2013
Works Approval for Nimbus Landfill Facility, Catherine Wharton, Macphersons Resources Limited.	All	17 December 2013

Note 1: Where the details and commitments of the documents listed in condition 1.2.1 are inconsistent with any other condition of this works approval, the conditions of this works approval shall prevail.

1.2.2 The Works Approval Holder, except where storage is prescribed in section 1.3, shall ensure that environmentally hazardous materials are stored in accordance with the code of practice for the storage and handling of dangerous goods.

1.3 Premises operation

There are no specified conditions relating to premises operation in this section.

2 Emissions

There are no specified conditions relating to emissions in this section.

3 Monitoring

There are no specified conditions relating to monitoring in this section.



4 Improvements

There are no specified conditions relating to improvements in this section.

5 Information

5.1 Reporting

5.1.1 The Works Approval Holder shall submit a compliance document to the Director, following the construction of each of stage 1, stage 2, stage 3, stage 4, stage 5, stage 6, stage 7, stage 8, stage 9 and stage 10 of the works and prior to commissioning of the same.

5.1.2 The compliance document shall:

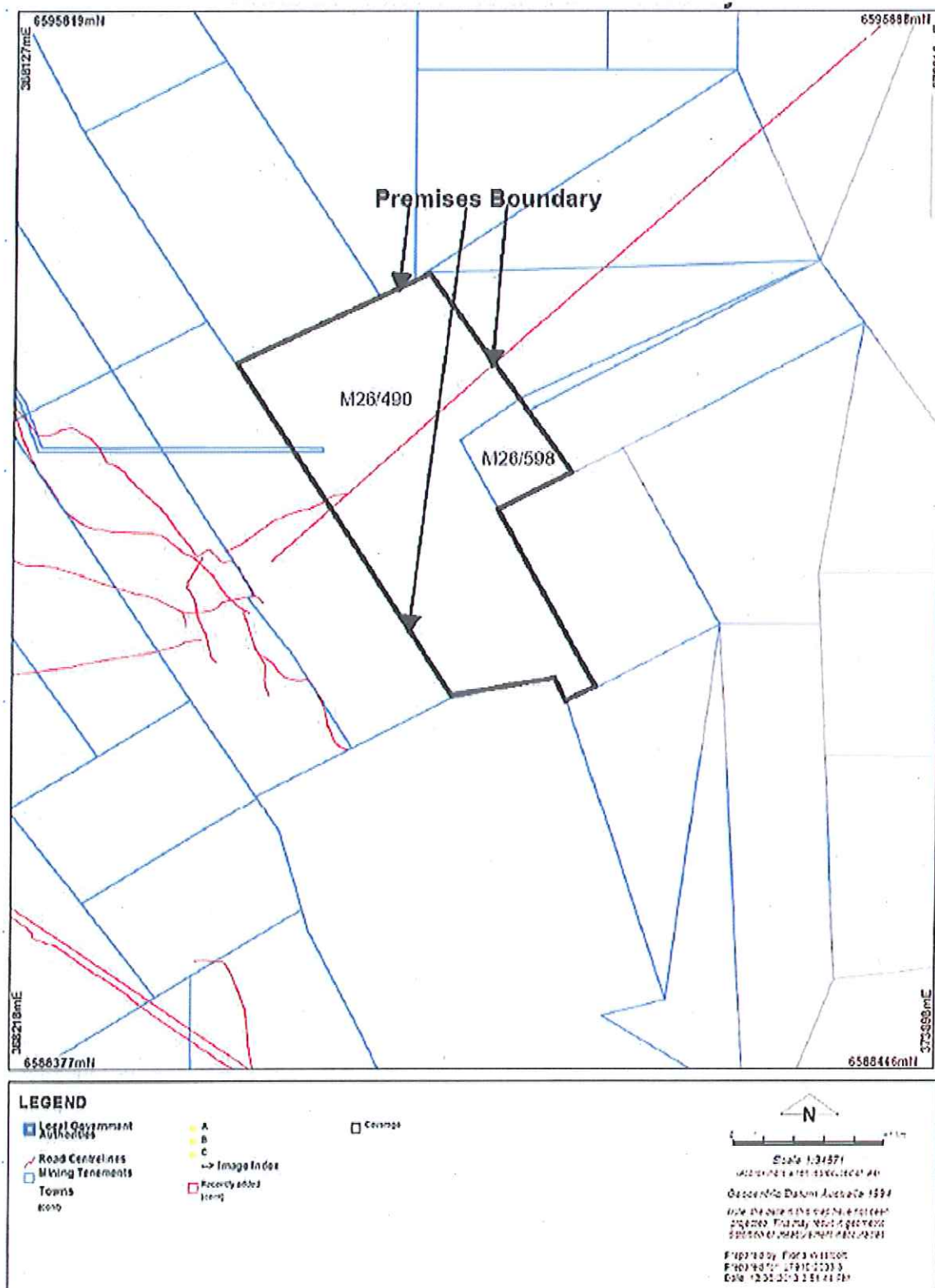
- (a) certify that the works were constructed in accordance with the conditions of the Works Approval; and
- (b) be signed by a person authorised to represent the Works Approval Holder and contain the printed name and position of that person within the company.



Schedule 1: Maps

Premises map

The Premises is shown in the map below. The bold black line depicts the Premises boundary.





Decision Document

Environmental Protection Act 1986, Part V

Proponent: MacPhersons Resources Limited

Works Approval: W5574/2013/1

Registered office: 109 Maritana Street
KALGOORLIE WA 6430

ACN: 139 357 967

Premises address: Nimbus Silver-Zinc-Gold Project
Mining tenement M26/490 and M26/598
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As depicted in Schedule 1 of the licence.

Issue date: Thursday, 13 February 2014

Commencement date: Monday, 17 February 2014

Expiry date: Saturday, 16 February 2019

Decision

Based on the assessment detailed in this document, the Department of Environment Regulation (DER), has decided to issue a works approval. DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the works approval and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by:

Rachael Brown
Regional Environmental Officer
(Goldfields)

Decision Document authorised by:

James Milne
Regional Leader – Industry Regulation
(Goldfields)



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1 Purpose of this document

This Decision Document explains how DER has assessed and determined the application for a works and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal and it is the proponent's responsibility to ensure they have all relevant approvals for their premises.

Works approval and licence conditions

DER has three types of conditions that may be imposed on works approvals or licences. They are as follows:

Standard conditions

DER has standard conditions that are imposed on all works approvals regardless of the activities undertaken on the premises and the information provided in the application. These are included as the following conditions on works approvals:

Works approval conditions: 1.1.1-1.1.4, 1.2.1, 1.2.2, 5.1.1 and 5.1.2.

Licence conditions: 1.1.1-1.1.4, 1.2.1-1.2.4, 5.1.1-5.1.4 and 5.2.1.

Optional standard conditions

In the interests of regulatory consistency DER has a set of optional standard conditions that can be imposed on works approvals. DER will include optional standard conditions as necessary and are likely to constitute the majority of conditions in any licence. The inclusion of any optional standard conditions are justified in section 4 of this document.

Non-standard conditions

Where the proposed activities require conditions outside the standard conditions suite DER will impose one or more non-standard conditions. These include both premises and sector specific conditions and are likely to occur within few licences. Where used, justification for the application of these conditions will be included in section 4.



2 Administrative summary

Administrative details		
Application type	Works approval ☒ New licence ☐ Licence amendment ☐ Works approval amendment ☐	
Activities that cause the premises to become prescribed premises	Category number(s) 89	Assessed design capacity 810 tonnes per year
Application verified	Date: 2 December 2013	
Application fee paid	Date: 3 January 2014	
Works Approval has been complied with	Yes ☐ No ☐ N/A ☒	
Compliance certificate received	Yes ☐ No ☐ N/A ☒	
Commercial-in-confidence claim	Yes ☐ No ☒	
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes ☒ No ☐	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes ☐ No ☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Is the proposal subject to Ministerial Conditions?	Yes ☐ No ☒	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes ☐ No ☒ Department of Water consulted Yes ☐ No ☒	
Is the premises within an Environmental Protection Policy (EPP) Area Yes ☐ No ☒ If yes include details of which EPP(s) here.		
Is the premises subject to any EPP requirements? Yes ☐ No ☒ If Yes include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.		



3 Executive summary of proposal

MacPhersons Resources Limited (MacPhersons) Nimbus Silver-Zinc-Gold Project (Nimbus) is located approximately 17km east of Kalgoorlie, Western Australia.

Nimbus currently holds an environmental protection licence for prescribed premises category 5 (processes or beneficiation of metallic or non-metallic ore) under schedule 1 of the *Environmental Protection Regulations 1987*. This works approval relates to the construction of a category 89 putrescible landfill site.

Proposal description

MacPhersons proposes to construct a putrescible landfill within the existing premises boundary of mining lease M26/490 (Appendix 1). The landfill will have the capacity to receive up to 810 tonnes of waste per year and will service the disposal of inert waste from proposed construction activities as per a separate works approval and the disposal of inert waste and clean fill throughout the life of the Nimbus operation. General refuse (putrescible waste) generated onsite will continue to be managed as per current procedures where it is removed via a licensed contractor and disposed offsite at the Kalgoorlie municipal waste facility.

A total of ten trenches will be constructed under the works approval (Appendix 2). Each trench will be constructed using a staged approach whereby an individual trench is excavated, progressively filled with waste and backfilled with excavated material before the subsequent trench is constructed. The approximate dimensions for each trench will be 3m wide, 30m long and 4.5m deep. Based on these dimensions each trench is expected to last a period between six to nine months.

MacPhersons has committed to regular inspections of the landfill to ensure disposed waste meets class II putrescible waste criteria, waste material is adequately covered and the site is maintained in a safe and healthy manner.

The intent of this Decision Document is to assess the potential environmental impacts of emissions and discharges associated with the construction and operation of a category 89 putrescible landfill site.



4 Decision table

All applications are assessed under the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DER's *Policy Statement - Limits and targets for prescribed premises* (2006), the risk matrix in section 6 and DER's Industry Regulation Emissions and Discharges Assessment Framework. Where other references have been used in making the decision they are detailed in the decision table.

DECISION TABLE					Reference documents
Works approval / licence section	Condition number W = works approval L = licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)		
General conditions	W 1.2 L G1 and G2	N/A	Construction Standard general conditions 1.2.1 and 1.2.2 have been included in the works approval. No additional OSCs and/or NSCs are required to be included.	N/A	
			Operation Condition G1 and G2 of the existing licence (L7910/2003/4) requires the submission of an Annual Environmental Report and Annual Audit Compliance Report. No additional specified conditions are required to be included in the existing licence.		
Premises operation	W – no conditions	OSC	Construction No specified conditions relating to premises operation are included in the works approval.	N/A	
			Operation To ensure the adequate management of the landfill during its operation, OSCs relating to waste acceptance, operational practices, appropriate signage and the management of windblown waste will be included in the existing licence as part of licence amendment to follow the submission of works approval compliance documentation for stage 1.		
Emissions general	W 2	N/A	Construction and operation No specified conditions relating to general emissions are included in the works approval or are required to be included in the existing licence.	N/A	



Point source emissions to air including monitoring	W 2	N/A	Construction and operation <i>Emission significance – 1</i> <i>Socio-political context – no concern or interest.</i> <i>Risk assessment – E – no regulation, other management mechanisms</i> No significant point source emissions to air are expected during the construction and operation of the landfill. No specified conditions relating to point source emissions to air or the monitoring of such emissions are included in the works approval or are required to be included in the existing licence.	Application supporting documentation General provisions of the <i>Environmental Protection Act 1986</i> <i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i>
Point source emissions to surface water including monitoring	W 2	N/A	Construction and operation <i>Emission significance – 1</i> <i>Socio-political context – no concern or interest</i> <i>Risk assessment – E – no regulation, other management mechanisms</i> There will be no point source emissions to surface water during the construction and operation of the landfill. The nearest water body is located approximately 15km east of the site (Lake Yindargooda). No specified conditions relating to point source emissions to surface water or the monitoring of such emissions are included in the works approval or are required to be included in the existing licence.	Application supporting documentation General provisions of the <i>Environmental Protection Act 1986</i> <i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i>
Point source emissions to groundwater including monitoring	W 2	N/A	Construction and operation <i>Emission significance – 1</i> <i>Socio-political context – no concern or interest</i> <i>Risk assessment – E – no regulation, other management mechanisms</i> There will be no point source emissions to groundwater during the construction and operation of the landfill. Groundwater is located approximately 70m below the grounds surface. Based on the depth of the proposed trenches (4.5m), there is a sufficient separation distance to groundwater of 65.5m. No specified conditions relating to point source emissions to groundwater or the monitoring of such emissions are included in the works approval or are required to be included in the existing licence.	Application supporting documentation General provisions of the <i>Environmental Protection Act 1986</i> <i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i>



Emissions to land including monitoring	W2 L W2	N/A	Operation (waste acceptance) <i>Emission significance – 2</i> <i>Socio-political context – Medium</i> <i>Risk assessment – D – EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools</i> The premises has a history of mercury contamination affecting underlying soils around historic mining infrastructure. The site has been classified as 'contaminated – remediation required' under the <i>Contaminated Sites Act 2003</i>. DER understands that staged remediation works have been undertaken including the removal of infrastructure and affected soils, although a report confirming the success of these works has not yet been submitted to DER. As such, the classification of the site remains unchanged. MacPhersons has identified in the works approval application that the issue of mercury contamination has been addressed as a result of these works. As such, DER has assessed the likelihood of contaminated material being disposed and buried in the landfill as low. To ensure no unauthorised waste is accepted into the landfill, conditions relating to waste acceptance will be included in the existing license as part of licence amendment to follow the submission of works approval Stage 1 compliance documentation.	Application supporting documentation General provisions of the <i>Environmental Protection Act 1986</i> <i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i>
Fugitive emissions	W2 L A1	OSC	Construction <i>Emission significance – 1</i> <i>Socio-political context – Medium</i> <i>Risk assessment – E – no regulation, other management mechanisms</i> Dust emissions are likely to be generated from material movement and vehicle movement during the construction of the landfill. Given the history of contamination onsite there is potential for dust emissions to contain mercury. However, the likelihood of this is considered low due to the remediation works carried out on affected soils. To ensure dust emissions generated during the construction of the landfill are minimised, MacPhersons has committed to the use of standard dust suppression techniques during the construction phase (e.g. water carts). No specified conditions	Application supporting documentation



			relating to fugitive emissions are included in the works approval. Operation <i>Emission significance – 1</i> <i>Socio-political context – Medium</i> <i>Risk assessment – E – no regulation, other management mechanisms</i> Dust emissions may be generated during the operation of the landfill as a result of material movement when covering waste and backfilling trenches. Given the history of contamination onsite there is potential for dust emissions to contain mercury. However, the likelihood of this is considered low due to the remediation works carried out on effected soils. Condition A1 of the existing licence ensures all measures are taken to prevent and minimise the generation of dust onsite. Standard dust suppression techniques (e.g. water carts) will be used throughout the life of the operation. No additional specified conditions relating to fugitive emissions are required to be included in the existing licence.	
Odour	W 2	N/A	Construction <i>Emission significance – 1</i> <i>Socio-political context – no concern or interest</i> <i>Risk assessment – E – no regulation, other management mechanisms</i> No odour is expected to be generated during the construction of the landfill. No specified conditions relating to odour are included in the works approval. Operation <i>Emission significance – 1</i> <i>Socio-political context – no concern or interest</i> <i>Risk assessment – E – no regulation, other management mechanisms</i> The landfill will service the disposal of inert waste and clean fill. Given putrescible waste will be disposed offsite, odour emissions	Application supporting documentation



				are not expected to be generated during the operation of the landfill. No specified conditions relating to odour are required to be included in the existing licence.	
Noise	W 2	N/A	Construction <i>Emission significance – 1</i> <i>Socio-political context – no concern or interest</i> <i>Risk assessment – E – no regulation, other management mechanisms</i> Noise emissions may arise from vehicle movements, the use of earthmoving equipment and general activities during the construction of the landfill. Given the nearest sensitive receptor (pastoral residence) is located approximately 8km east of the proposed works the impact of such noise emissions is likely to be minimal. Construction of the landfill will be carried out in accordance with <i>Environmental Protection (Noise) Regulations 1997</i>. No specified conditions relating to noise are included in the works approval. Operation <i>Emission significance – 1</i> <i>Socio-political context – no concern or interest</i> <i>Risk assessment – E – no regulation, other management mechanisms</i> No significant noise emissions are expected during the operation of the landfill. No specified conditions relating to noise are required to be included in the existing licence.	Application supporting documentation General provisions of the <i>Environmental Protection Act 1986</i>	
	W 3	N/A	Construction and operation Emissions and discharges from the construction and operation of the landfill are not considered significant and will not be monitored under the works approval or existing licence. Therefore, no specified conditions relating to general monitoring have been included.	N/A	
	Monitoring of inputs and outputs	W 3	N/A	Construction The monitoring of inputs and outputs is not required during the construction of the landfill. No specified conditions relating to monitoring of inputs and outputs are included in the works approval.	N/A



			Operation During the operation of the landfill the proponent is required to monitor the acceptance of waste to ensure that where waste does not meet the acceptance criteria it is removed from the premises and disposed of appropriately. A relevant condition will be included in the existing licence as part of licence amendment to follow the submission of works approval Stage 1 compliance documentation.	
Process monitoring	W 3	N/A	Construction and operation There is no requirement to monitor processes during the construction and operation of the landfill. No specified conditions relating to process monitoring are included in the works approval or are required to be included in the existing licence.	N/A
Ambient environmental quality monitoring	W 3	N/A	Construction and operation No significant emissions and discharges are expected during the construction and operation of the landfill. Therefore, no specified conditions relating to ambient quality monitoring are included in the works approval or are required to be included in the existing licence.	N/A
Meteorological monitoring	W 3	N/A	Construction and operation Monitoring of meteorological conditions is not required to manage emissions and discharges from the construction and operation of the landfill. No specified conditions relating to meteorological monitoring are included in the works approval or are required to be included in the existing licence.	N/A
Improvements	W 4	N/A	Construction and operation No improvement conditions have been included in the works approval or existing licence. At this stage no specific improvement actions are required. DER will continue to review the environmental performance of the premises to determine whether improvement conditions are warranted in the future.	N/A
Information	W 5	OSC	Construction Standard conditions 5.1.1 and 5.1.2 have been included in the works approval. No additional OSCs and/or NSCs are required to be included.	N/A



			Operation No conditions relating to information are required to be included in the existing licence.	
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5 Advertisement and consultation table

Date	Event	Comments received/notes	How comments were taken into consideration
13/01/2014	Application advertised in <i>The West Australian</i> (or other relevant newspaper)	No comments received	N/A
3/02/2014	Proponent sent a copy of draft instrument	Minor administrative changes	Updated



6 Emissions and discharges risk assessment framework

Note: These matrix are taken from the DER Officer's Guide to Emissions and Discharges Risk Assessment (2006).

Table 3: Measures of significance of emissions

Emissions as a percentage of the relevant emission or ambient standard		Worst case operating conditions (95 th percentile)			
		>100%	50 – 100%	20 – 50%	<20%*
Normal operating conditions (50 th percentile)	>100%	5	N/A	N/A	N/A
	50 – 100%	4	3	N/A	N/A
	20 – 50%	4	3	2	N/A
	<20%*	3	3	2	1

*For reliable technology, this figure could increase to 30%

Table 4: Socio-political context of each regulated emission

		Relative proximity of the interested party with regards to the emission				
		Immediately adjacent	Adjacent	Nearby	Distant	Isolated
Level of community interest or concern*	5	High	High	Medium high	Medium	Low
	4	High	High	Medium high	Medium	Low
	3	Medium high	Medium high	Medium	Low	No
	2	Low	Low	Low	Low	No
	1	No	No	No	No	No

Note: These examples are not exclusive and professional judgement is needed to evaluate each specific case

*This is determined by DER using the *Officer's Guide to Emissions and Discharges Risk Assessment* (2006).

Table 5: Emissions risk reduction matrix

		Significance of emissions				
		5	4	3	2	1
Socio-political context	High	A	A	B	C	D
	Medium high	A	A	B	C	D
	Medium	A	B	B	D	E
	Low	A	B	C	D	E
	No	B	C	D	E	E

PRIORITY MATRIX ACTION DESCRIPTORS

A = do not allow (fix)

B = licence condition (setting limits + EMPs - short timeframes)(setting targets optional)

C = licence condition (setting targets + EMPs - longer timeframes)

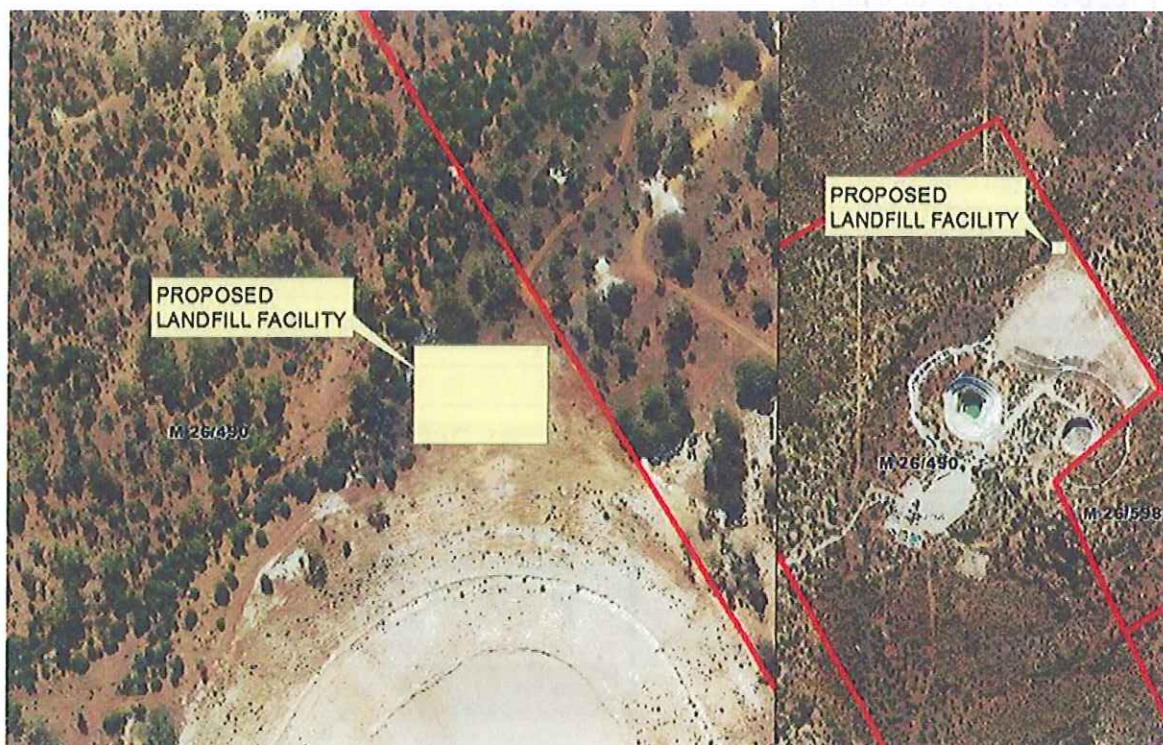
D = EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools

E = no regulation, other management mechanisms



Appendix 1

Location of the proposed landfill.





Appendix 2

Proposed layout of landfill.

