



Application for Works Approval

Part V Division 3 of the *Environmental Protection Act 1986*

Works Approval Number	W6649/2022/1
Applicant	Covalent Lithium Pty Ltd
ACN	70 623 090 139
File number	DER2021/000713
Premises	Earl Grey Lithium Project Legal description Mining tenement M77/1066 As defined by the coordinates in Schedule 1 of the works approval
Date of report	19 April 2022
Decision	Works approval granted

Marko Pasalich

A/Manager Waste Industries

REGULATORY SERVICES

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

Table of Contents

1. Decision summary	1
2. Scope of assessment	1
2.1 Regulatory framework	1
2.2 Application summary and overview of premises	1
3. Risk assessment	1
3.1 Source-pathways and receptors	2
3.1.1 Emissions and controls	2
3.1.2 Receptors	5
3.2 Risk ratings	6
4. Consultation	9
5. Conclusion	9
References	9
Appendix 1: Application validation summary	10
Table 1: Proposed applicant controls	2
Table 2: Sensitive human and environmental receptors and distance from prescribed activity	5
Table 3: Risk assessment of potential emissions and discharges from the premises during construction and operation	7
Table 4: Consultation	9

1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction of the premises. As a result of this assessment, works approval W6649 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary and overview of premises

On 13 December 2021, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction works relating to the development of a Class I landfill facility and a Class II landfill facility to support and form part of the larger Earl Grey Lithium Project.

The Earl Grey Lithium Project is located approximately 105 km south-southeast of the Southern Cross town site at the former Bounty Gold Mine. Upon completion, the mine will extract and process of approximately 2 million tonnes per annum of spodumene ore for the production of approximately 50,000 tonnes per annum of lithium hydroxide at the Covalent Lithium Hydroxide plant in Kwinana.

The Earl Grey Lithium Project was granted environmental approval under Part IV of the *Environmental Protection Act 1986* (the Act) via Ministerial Statement 1118 on 21 November 2019. MS 1118 was amended to incorporate changes to the Earl Grey Lithium Project footprint and various conditions relating to rehabilitation on 14 May 2021 via Ministerial Statement 1167.

The construction and operation of the Earl Grey Lithium Project requires the development of two separate landfills, a Class I inert landfill and a Class II putrescible landfill. The inert landfill will be operational primarily during the construction phase of the Earl Grey Lithium Project while the putrescible landfill is expected to service the mine long-term.

Both landfills are located within areas that have previously been cleared of remanent native vegetation for historic mining activities. The putrescible landfill is located within a previous borrow pit and will require no clearing of vegetation. The inert landfill will require the clearing of 0.08 ha of native vegetation.

On 20 March 2022, the applicant requested that time limited operations be added to the works approval. The premises relates to the categories and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6649. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6649.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction / operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Excavation works and vehicle movements associated with landfill construction	Air / windborne pathway	<ul style="list-style-type: none"> • Short construction timeframe (1 to 2 weeks); • Use of water carts as needed to wet down dust generating surfaces such as roads and earthworks areas; • Topsoil stripping / stockpiling activities to be restricted during high winds if dust cannot be adequately controlled; • Weather forecasting apps will be used to predict extreme weather conditions likely to result in increased dust emissions so that impacts can be minimised through additional controls or modified activities; • Use of defined haul roads for machinery / vehicles travelling on unsealed surfaces or roads; • Reduced vehicle speed limits in areas of unconsolidated soil; and • Any complaints relating to dust will be recorded and investigated as per the Covalent Management Procedure.
Noise			<ul style="list-style-type: none"> • Short construction timeframe (1 to 2 weeks); • Mobile equipment will be operated and serviced in line with the manufacturer's specifications; • Maximum sound power levels specified for equipment; and • Complaints relating to noise will be recorded and investigated as per the Covalent Incident Management Procedure.

Emission	Sources	Potential pathways	Proposed controls
Operation			
Dust	Disposal of waste to landfill	Air/windborne pathway	<ul style="list-style-type: none"> • Use of water carts as needed to wet down dust generating surfaces such as roads and earthworks areas; • Covering of waste with soil be restricted during high winds if dust cannot be adequately controlled; • Weather forecasting apps will be used to predict extreme weather conditions likely to result in increased dust emissions so that impacts can be minimised through additional controls or modified activities; • Use of defined haul roads for machinery / vehicles travelling on unsealed surfaces or roads; and • A site based weather station will be utilised to monitor and record weather conditions.
Noise			<ul style="list-style-type: none"> • Mobile equipment will be operated and serviced in line with the manufacturer's specifications; • Maximum sound power levels specified for equipment; and • Complaints relating to noise will be recorded and investigated as per the Covalent Incident Management Procedure.
Odour			<ul style="list-style-type: none"> • Waste will be compacted and covered monthly; • Waste will be covered when transported to the putrescible landfill; • Site induction will provide all site based personnel with information and education on permitted waste disposal and recycling; and • Complaints relating to odour will be recorded and investigated as per the Covalent Incident Management Procedure.
Windblown wastes			<ul style="list-style-type: none"> • Both the inert landfill and the putrescible landfill will be fully fenced; • Inert and putrescible waste will be covered on a monthly basis; • Waste will be covered when transported to the putrescible landfill;

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> • Waste material from the project village will generally be in bin bags; • Site induction will provide all site based personnel with information and education on permitted waste disposal and recycling; and • Complaints relating to odour will be recorded and investigated as per the Covalent Incident Management Procedure.
Leachate		<p>Overland runoff into surface water</p> <p>Infiltration into soil and groundwater</p>	<ul style="list-style-type: none"> • Upslope undisturbed runoff will be diverted around the inert and putrescible landfills via clean water diversion bunds; • The cell floors have been designed with gentle gradients toward centralised sumps; and • Final capping of both landfills to bring the final landform above ground level.
Contaminated stormwater			<ul style="list-style-type: none"> • Upslope undisturbed runoff will be diverted around the inert and putrescible landfills via clean water diversion bunds; • Clean water diversion bunds to be a minimum of 0.5 m high and constructed directly on the embankment of the landfill trenches; • The clean water diversion bunds will remain in place until the landfill is capped and shallow-rooted vegetation stabilised; • A smaller speed bump style diversion bund will be constructed at the top of the ramp; • Surface water runoff collected in the detention basin of the putrescible landfill will either evaporate from the basin or be pumped and utilised for dust suppression; • The detention basin of the putrescible landfill will be constructed with side slopes of 3% to a depth of approximately 0.7 m bgl and have a water holding capacity of 445 m³. A minimum freeboard of 0.3 m will be maintained at all times withing the basin; • Regular inspections will be undertaken of the alignment, grade and integrity of the clean water diversion bunds; and • The detention basin will be regularly desilted.

Emission	Sources	Potential pathways	Proposed controls
Fire and fire washwaters		Air/windborne pathway Overland runoff into surface water Infiltration into soil and groundwater	<ul style="list-style-type: none"> A 3 m firebreak will be maintained around the boundary of each premises.

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 2 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental Siting* (DWER 2020)).

Table 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
No nearby receptors	
Environmental receptors	Distance from prescribed activity
Threatened Ecological Communities <i>Ironcap Hills banded ironstone formation</i>	Premises mapped within area
Underlying groundwater <i>Westonia Groundwater Area</i>	Approximately 58 m bgl
Threatened Fauna <i>Leipoa ocellata (Malleefowl)</i>	Located within 6 km of the landfilling areas
Threatened Flora <ul style="list-style-type: none"> <i>Banksia sphaerocarpa var. dolichostyla</i> <i>Daviesia newbeyi</i> <i>Eutaxia lasiocalyx</i> <i>Baeckea sp. Blue Haze Mine</i> 	Mapped within a 4km radius of the landfilling areas
Watercourses Minor non-perennial water course	Approximately 500m east and north of the landfilling areas

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

Works approval W6649 that accompanies this decision report authorises construction only. The conditions in the issued works approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required to authorise emissions associated with the ongoing operation of the premises. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

Table 3: Risk assessment of potential emissions and discharges from the premises during construction and operation

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Excavation works and vehicle movements associated with landfill construction	Dust	Air/windborne pathway causing impacts to health and amenity	Surrounding vegetation and threatened flora / fauna species	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Emission to be regulated under the general provisions of the EP Act	N/A
	Noise				Emission to be regulated under the <i>Environmental Protection (Noise) Regulations 1997</i>		N/A	
Operation (including time limited operations)								
Disposal of waste, decomposition of wastes, tipping, application of landfill cover, vehicle movement	Dust	Air / windborne pathway causing impacts to health and amenity	Surrounding vegetation and threatened flora / fauna species	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 6	N/A
	Noise			Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Emission to be regulated under the <i>Environmental Protection (Noise) Regulations 1997</i>	N/A
	Odour			Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	Condition 6	N/A
	Windblown wastes			Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	Condition 6	N/A
	Contaminated stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface	Underlying groundwater Surrounding vegetation	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1, 6 and 7	N/A

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		water quality Infiltration into soil and groundwater	and threatened flora / fauna species Nearby surface water courses					
	Leachate	Infiltration into soil and groundwater	Underlying groundwater	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1, 6 and 7	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020).

Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 23 February 2022	None received	N/A
Local Government Authority advised of proposal on 23 February 2022	The Shire of Yilgarn presented the application at the Council meeting on 17 March 2022. The Council voted in support of the application.	Noted.
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal 23 February 2022	None received	N/A
Applicant was provided with draft documents on 24/03/2022	Covalent Lithium provided an email response with comments on the draft package on 8 April 2022. Covalent Lithium requested that the dimensions of the inert and putrescible landfills be updated and changed to approximate values to allow for minor variations in the construction of the landfills. Additionally Covalent Lithium requested that the location of the inert landfill be moved approximately 80 m to the west to allow room for other infrastructure relating to the mining operation.	The department does not consider these changes to impact the outcomes of the risk assessment. The works approval has been updated to reflect these changes.

5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)				
Application type				
Works approval	<input checked="" type="checkbox"/>			
Licence	<input type="checkbox"/>	Relevant works approval number:		None <input type="checkbox"/>
		Has the works approval been complied with?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Has time limited operations under the works approval demonstrated acceptable operations?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Date report received:		
Renewal	<input type="checkbox"/>	Current licence number:		
Amendment to works approval	<input type="checkbox"/>	Current works approval number:		
Amendment to licence	<input type="checkbox"/>	Current licence number:		
		Relevant works approval number:	N/A	<input type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:	None	<input type="checkbox"/>
Date application received	13 December 2021			
Applicant and premises details				
Applicant name/s (full legal name/s)	Covalent Lithium Pty Ltd			
Premises name	Earl Grey Lithium Project			
Premises location	Mining tenement M77/1066			
Local Government Authority	Shire of Yilgarn			
Application documents				
HPCM file reference number:	DER2018/001044-6~80			
Key application documents (additional to application form):	Works approval supplementary information document – putrescible and inert landfills			
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.	Construction of two separate landfilling areas within the existing Mt Holland mine site. One landfill is to be suitable for inert wastes and the other is to be suitable for putrescible wastes.			

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 63: Class I inert landfill site	145 tonnes in the first year, then 8 tonnes per annum in subsequent years (3 year total duration)	
Category 64: Class II or III putrescible landfill site	150 tonnes in the first year, followed by 20 tonnes per annum in subsequent years	

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: MS 1118
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input checked="" type="checkbox"/> Expiry: 12/12/2025 Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: Not required for activities – authorised under Ministerial Statement
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CPS No: N/A Exempt from a clearing permit under Part V – approved under Ministerial

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

		Statement
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: Westonia Groundwater Area Type: Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office: Goldfields
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Classification: possibly contaminated – investigation required (PC-IR) Date of classification: 28/10/2020</p>
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