



Application for Licence Amendment

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

Licence Number	L9326/2022/1
Licence Holder	Covalent Lithium Pty Ltd
ACN	70 623 090 139
File Number	DER2022/000016~1
Premises	Earl Grey Lithium Project Marvel Loch – Forrestania Road MOUNT HOLLAND WA 6426 Legal description - Portion of Mining Tenement M77/1066 As defined by the premises map and coordinates in Schedule 1 of the licence
Date of Report	18 May 2023
Decision	Revised licence granted

Steve Checker

MANAGER WASTE INDUSTRIES

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

Table of Contents

1. Decision summary	3
2. Scope of assessment	3
2.1 Regulatory framework	3
2.2 Amendment summary	3
2.3 Part IV of the EP Act.....	4
3. Risk assessment.....	4
3.1 Source-pathways and receptors	4
3.1.1 Emissions and controls	4
Note 1: Treated wastewater will not be used for dust suppression activities.	5
3.1.2 Receptors.....	5
3.2 Risk ratings.....	9
4. Consultation	11
5. Conclusion	12
5.1 Summary of amendments.....	12
References	13
Appendix 2: Application validation summary.....	14

Table 1: Proposed design changes	4
Table 2: Licence holder controls	4
Table 3: Sensitive human and environmental receptors and distance from prescribed activity .5	
Table 4. Risk assessment of potential emissions and discharges from the Premises operation	9
Table 5: Consultation	11
Table 6: Summary of licence amendments	12

Figure 1: Regional location of the Earl Grey Lithium Project area (shown in blue) -supplied by applicant.	8
--	---

1. Decision summary

Licence L9326/2022/1 is held by Covalent Lithium Pty Ltd (licence holder) for the wastewater treatment plant (WWTP) situated at the Earl Grey Lithium Project (the premises), located on the Marvel Loch – Forrestania Road, Mount Holland.

This amendment report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the premises. As a result of this assessment, revised licence L9326/2022/1 has been granted.

The revised licence issued as a result of this amendment consolidates and supersedes the existing licence previously granted in relation to the premises.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department 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 Amendment summary

On 17 January 2023, the licence holder submitted an application to the department to amend licence L9326/2022/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Include sequence batch reactor (SBR) WWTP Train 3; and
- Increase approved effluent throughput to 180m³/day.

The proposed amendment will reflect the changes made to the premises made under the amended works approval, which facilitated the permanent retention of the two sequence batch reactor (SBR) WWTP trains (Train 1 and Train 2) constructed as part of Stage 1, and the construction of an additional SBR WWTP as part of Stage 2. The Stage 2 SBR WWTP (Train 3) is identical in description and processes to the two Stage 1 SBR trains.

In addition to the enlarged 26, 600 m² (2.60-hectare) sprayfield built to accommodate peak construction effluent irrigation requirements, a second 22, 500 m² (2.25-hectare) sprayfield has been constructed to accommodate the outflows from the Stage 2 SBR WWTP. These areas include a 5 m spray buffer along each perimeter. The combined sprayfield area is 49, 100 m² (4.91-hectares).

The capacity and sizing of the SBR WWTP and sprayfields was previously assessed at the works approval amendment stage. The combined 49, 100 m² (4.91-hectare) sprayfield is of sufficient area to accommodate the 180m³/day treated effluent throughput in accordance with the nutrient loading limitations set out in DWER's Water Quality Protection Note (WQPN) 22-*Irrigation with nutrient-rich wastewater* (minimum area required for sprayfield is 4.38-hectares). Table 1 below outlines the proposed changes to the existing licence.

Table 1: Proposed design changes

Category	Current design capacity	Proposed design capacity	Description of proposed amendment
Category 54 – Sewage facility	120m ³ /day	180m ³ /day	Amendment to include SBR Train 3 and Stage 2 sprayfield, and increase effluent throughput to 180m ³ /day.

2.3 Part IV of the EP Act

Ministerial Statement 1118 (EPA 2019) was published on 21 November 2019 in relation to Covalent Lithium Pty Ltd.'s proposal to develop a pegmatite-hosted lithium deposit at the abandoned Mount Holland mine site. The proposal is for conventional open-cut mining of the existing Earl Grey pit, and development of associated mine infrastructure. The new mining proposal would utilise some existing infrastructure and disturbed areas. The mining proposal involves disturbance of 667 ha of land, including new clearing of up to 386 ha of native vegetation, which is habitat for significant fauna species. Two threatened fauna species Malleefowl (*Leipoa ocellata*) and Chuditch (*Dasyurus geoffroyi*), and one threatened flora species Ironcap Banksia (*Banksia sphaerocarpa* var. *dolichostyla*), all listed as Vulnerable at the Commonwealth and State level, are known to occur within the proposal Development Envelope.

The development of the WWTP required the clearing of 9.24 ha, which has been authorised under Ministerial Statement 1118. Any potential disturbance to flora, vegetation and fauna during construction and operation of the WWTP will comply with the conditions set out in Ministerial Statement 1118.

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 operation which have been considered in this Amendment Report are detailed in Table 2 below.

Table 2 also details the proposed control measures the licence holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Licence holder controls

Emission	Sources	Potential pathways	Proposed controls
Odour	Operation of SBR WWTP	Air/windborne pathway causing impacts on fauna health and behavior	Programmable Logic Controller to transfer waste from the aerobic/ membrane bioreactor tank to sludge tank for anaerobic digestion to reduce waste and minimise odour
Noise			Physical separation
Light			Lighting around the WWTP to be installed to minimise the impact of lighting on terrestrial fauna
Untreated and partially treated sewage	Overtopping, spillage, or leakage of untreated or partially treated wastewater	Infiltration to soil and percolation through to groundwater	Construction of containment bund around perimeter to contain any spills within premises boundary WWTP to be built on a compacted surface
Treated sewage	Discharge of treated effluent via sprayfield	Direct application to soil and vegetation,	The WWTP will be appropriately designed and operated to ensure nutrient loads in treated effluent do not exceed targets specified in Australian Guidelines for Sewerage Systems –Effluent Management Surface water management structures /bunding will ensure any spills are contained
Dust	Maintenance and waste vehicle movements	Air/windborne pathway causing impacts to native vegetation communities and disturbance to fauna	Speed limits for vehicles using unsealed access roads Water trucks and water sprays ¹

Note 1: Treated wastewater will not be used for dust suppression activities.

3.1.2 Receptors

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

Table 3 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)). Figure 1 depicts the regional context of the Earl grey lithium project, including proximity to reserves and townsites.

Table 3: Sensitive human and environmental receptors and distance from prescribed

activity

Human receptors	Distance from prescribed activity
Covalent Lithium employees and contractors	N/A - In accordance with the Department's Guidance Statement: Risk Assessment (February 2017), when identifying potential receptors, DWER will exclude employees, visitors, or contractors of the Works Approval Holder, as protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other State legislation.
Environmental receptors	Distance from prescribed activity
Threatened fauna: <ul style="list-style-type: none"> • Mallee fowl (<i>Leipoa ocellata</i>) – vulnerable • Chudich (<i>Dasyurus geoffro</i>) – vulnerable • Inland western rosella (<i>Platycercus icterotis xanthogeness</i>) – P4 • Western brush wallaby (<i>Notamacropus irma</i>) – P4 • Peregrine falcon (<i>Falco peregrinus</i>) - OS 	All species recorded within Earl Grey Lithium Project development envelope
Threatened priority flora: <ul style="list-style-type: none"> • <i>Banksia sphaerocarpa</i> var. <i>dolichostyla</i> – threatened • <i>Acacia</i> sp. <i>Forrestiana</i> (D. Angus DA 3001) – P1 • <i>Grevillea lissopleura</i> – P1 • <i>Microcorys elatoides</i> – P1 • <i>Eutaxia lasiocalyx</i> – Priority 2 • <i>Acacia undosa</i> – P3 • <i>Hakea pendens</i> – P3 • <i>Stylidium sejunctum</i> – P3 • <i>Eremophilla biserrata</i> – P4 	The site of the WWTP is outside of the 50 m buffer zone from the <i>Banksia sphaerocarpa</i> var. <i>dolichostyla</i> and <i>Microcorys elatoides</i> population groups Approximately 30 <i>Eutaxia lasiocalyx</i> were directly impacted by WWTP construction
Threatened Ecological Communities: <ul style="list-style-type: none"> • Ironcap Hills Vegetation assemblages (Mt Holland; Middle, North and South Ironcap Hills; Digger Rock and Hatter Hill) (greenstone ranges) 	Earl Grey Lithium Project development envelope is situated within the Priority 3 ecological community
Water supply reserve: <ul style="list-style-type: none"> • Reserve 1785, Reserve Number 13524 – WATER SUPPLY MINES 	Approximately 5 km southwest of WWTP
Nature reserves: <ul style="list-style-type: none"> • Jilbadji Nature Reserve and the Parker Range • Lake Cronin Nature Reserve 	<ul style="list-style-type: none"> • Approximately 5 km north of WWTP • Approximately 30 km to the south of WWTP

Water supply reserve <ul style="list-style-type: none"> Reserve 1785, Reserve Number 13524 – WATER SUPPLY MINES 	Approximately 5 km southwest of WWTP
Surface water: <ul style="list-style-type: none"> Minor non-perennial watercourse Surface waterbody - Land Subject To Inundation Stock dams excavated in minor non-perennial watercourse 	<ul style="list-style-type: none"> Transects northeast corner of WWTP (through sprayfields) Approximately 3.5 km southeast of WWTP Approximately 3.5 km south of WWTP
Groundwater	
The depth to water table beneath the Earl Grey Lithium Project Development Envelope ranges between 58 to 70 metres below ground level. Groundwater is brackish to hypersaline, with total dissolved solids (TDS) levels varying between 7,640 mg/L and 119,000 mg/L and recorded pH of between 7.23 and 8.16	

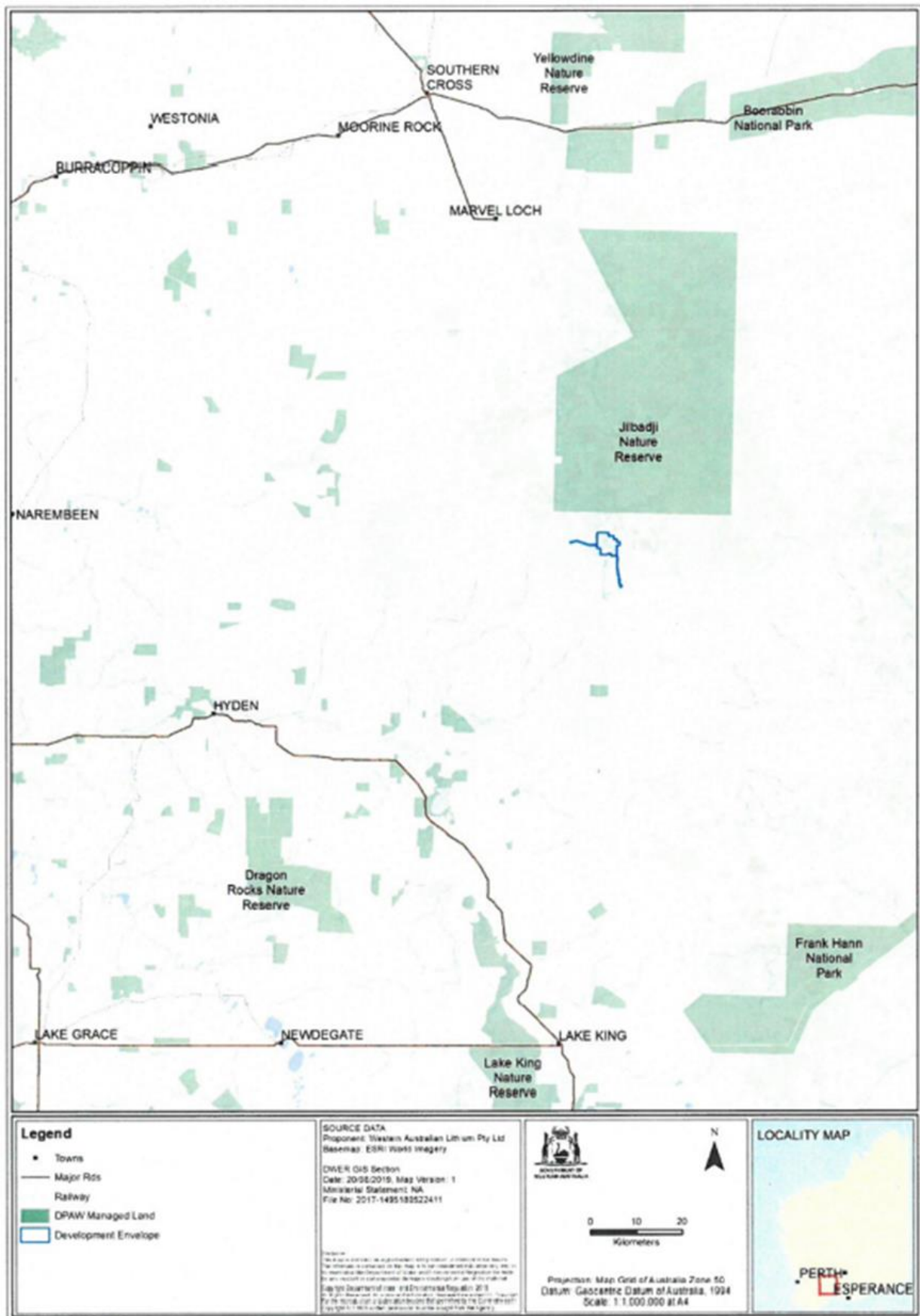


Figure 1: Regional location of the Earl Grey Lithium Project area (shown in blue) - supplied by applicant.

3.2 Risk ratings

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

Where the licence holder 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 licence holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into licence as regulatory controls.

Additional regulatory controls may be imposed where the licence holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

The revised licence L9326/2022/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e., sequence batch reactor sewage treatment plants and associated irrigation sprayfields.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 4. Risk assessment of potential emissions and discharges from the Premises operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence holder's controls				
Operation								
Operation of WWTP	Odour	Air/windborne pathway causing impacts to human health and amenity	N/A	Refer to Section 3.1.1	N/A	Y	Conditions 1, 2 and 3	n/a
	Noise	Air/windborne pathway causing impacts to human health and amenity and fauna health and behavior	Native fauna	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	Condition 1	n/a

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence holder's controls				
	Light	Airborne pathway causing impacts on vegetation and native fauna	Native fauna and remnant vegetation	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	Condition 1	n/a
Overtopping, spillage, or leakage of untreated or partially treated wastewater	Untreated and partially treated sewage	Infiltration to soil	Native fauna and remnant vegetation	Refer to Section 3.1.1	C = Slight L = Possible Low Risk	Y	Conditions 1, 2, 6 and 9	n/a
Discharge of treated effluent via sprayfield	Treated sewage	Direct application to soil and vegetation	Native fauna and remnant vegetation	Refer to Section 3.1.1	C = Minor L = Possible Medium Risk	Y	Conditions 1, 2, 3, 4, 5, 6, and 7	n/a
Maintenance and waste vehicle movements	Dust	Air/windborne pathway causing impacts to native vegetation communities and disturbance to fauna	Remnant vegetation	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	n/a	n/a

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

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

4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Application referred to DMIRS via email on 23/02/2023	No comments received	N/A
Application referred to DoH via email on 23/02/2023	<p>Formal response received 07/03/2023</p> <p>"In relation to the management of wastewater, the DoH has no objection to the proposal for the amendment or replacement of facultative, maturation and evaporation ponds for another Sequence Batch Reactor (SBR) wastewater treatment system and surface irrigation area.</p> <p>This is subject to ensuring the department's approved SBR treatment system for 84 KL/day to 23,400 m² surface irrigation (Jan 2021), is not compromised. The proponent also needs to submit a formal application detailing the amendment and relevant specifications and details of the proposed onsite wastewater treatment system and disposal area to the local government, who will forward it onto the DoH for assessment and approval".</p>	<p>Noted.</p> <p>Applicant will be advised of additional LGA approval requirement.</p>
Application referred to Shire of Yilgarn via email on 23/02/2023	No comments received	N/A
<i>Works Approval/Licence Holder was provided with draft amendment on (30/03/2023)</i>	<i>"We confirm that the draft Licence is as per our requirements and waive the remainder of the 21-day comment period"</i>	N/A

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a revised licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 6 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the revised licence as part of the amendment process.

Table 6: Summary of licence amendments

Condition no.	Proposed amendments
Cover page	Assessed design capacity increased from 120 cubic metres per day to 180 cubic metres per day Premises details amended
Licence history	Overview of approval history Updated to capture other works approval associated with the premises
1, Table 1	Infrastructure and equipment requirements table updated
2, Table 2	Additional discharge point (Sprayfield (Stage 2)) inserted
3, Table 3	Emission and discharge limits table amended to include Sprayfield (Stage 2)
5	Word 'operators' inserted for clarity
8	Wording and punctuation amended for clarity
Schedule 1, Figure 2	New SBR WWTP and dedicated spray field plan inserted

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 2: Application validation summary

SECTION 1: APPLICATION SUMMARY					
Application type					
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L9326/2022/1		
		Relevant works approval number:	W6517/2021/1	N/A	<input type="checkbox"/>
Date application received					
Applicant and Premises details					
Applicant name/s (full legal name/s)		Covalent Lithium Pty Ltd			
Premises name		Earl Grey Lithium Project			
Premises location		Marvel Loch – Forrestania Road, Portion of Mining Tenement M77/1066			
Local Government Authority		Shire of Yilgarn			
Application documents					
HPCM file reference number:		DWERDT715306			
Key application documents (additional to application form):		<i>Completed application form</i>			
Scope of application/assessment					
Summary of proposed activities or changes to existing operations.		<i>Licence amendment</i> Operation of modular sewage facilities and associated sprayfields <i>(Include SBR Train 3 on the existing Licence (L9326) and increase throughput accordingly to 180m³/day)</i>			
Category number/s (activities that cause the premises to become prescribed premises)					
Table 1: Prescribed premises categories					
Prescribed premises category and description	Approved production or design capacity	Proposed changes to the production or design capacity			
<i>Category 54: Sewage facility: premises —</i> <i>(a) on which sewage is treated (excluding septic tanks); or</i> <i>(b) from which treated sewage is discharged onto land or into waters.</i>	120 cubic metres per day	180 cubic metres per day			
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 checked="" type="checkbox"/>	Ministerial statement No: EPA Report No: MS 1118 - Earl Grey Lithium Project
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Reference No: Assessment number 2017-7950.
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Mining lease / tenement M77/1066 Expiry: 12/12/2025
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approved under EPBC Act and Ministerial Statement
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Clearing approved under ministerial 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"/>	Clearing approved under ministerial statement
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"/>	A valid licence / permit applies: [[GWL201377(2) annual water entitlement 5,000 kL duration 22/2/2019 to 29/5/2023
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input checked="" 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 checked="" type="checkbox"/> N/A <input 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"/>	N/A
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004</i> , <i>Environmental Protection (Controlled Waste) Regulations 2004</i> , <i>State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Dangerous Goods chemical storage requirements
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"/>	
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<p>Earl Grey Lithium Project – 11761</p> <p>Classification: Possibly contaminated - investigation required</p> <p>Date: Oct 28, 2020</p>