



Application for Works Approval

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

Works Approval Number W6832/2023/1

Applicant Talison Lithium Australia Pty Ltd

ACN 139 401 308

File number DWER2023/000532

Premises Talison Greenbushes Lithium Mine – Village Wastewater Treatment Plant
1130 Maranup Ford Road
Greenbushes WA 6254

Mining tenements L70/232, L70/244, M01/3, M1/06 and M01/7
As defined by the premises maps attached to the issued works approval

Date of report 17 November 2023

Proposed Decision Works approval granted

MANAGER, PROCESS INDUSTRIES

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

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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 and operation of the premises. As a result of this assessment, works approval W6832/2023/1 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 10 August 2023, 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 a wastewater treatment plant (WWTP) which will service an accommodation village at the premises. The premises is located in the Shire of Bridgetown-Greenbushes, immediately to the southern boundary of the Talison Lithium Mine premises (L4247/1991/13). The mine is adjacent to the town of Greenbushes, approximately 250 km south of Perth, Western Australia.

The premises relates to the category 54 and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6832/2023/1. 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 W6832/2023/1.

2.2.1 Background

The Talison Lithium Mine (Mine, Site) is an existing mining and spodumene (lithium bearing mineral) concentrating operation, owned, and operated by Talison Lithium Australia Pty Ltd (the applicant). The applicant is expanding its Lithium (Li) mining operations and infrastructure which will increase the size of the construction and operational workforce to the point that it will exceed capacity of existing residential accommodation. As such, the applicant plans to construct a 500-bed accommodation village to the south of the mine.

A WWTP with a 125 m³/day capacity will be required to treat domestic village wastewater. The treated wastewater (TWW) will be managed by disposal into the Mine Water Circuit (MWC), within the Talison Lithium mine, after its initial transfer to Tailings Storage Facility 4 (TSF4). The TWW will enter the premises mine water circuit and be incorporated as reuse as process water.

2.2.2 Wastewater treatment infrastructure

The proposed WWTP is designed to produce TWW suitable for land disposal. The WWTP utilises a membrane bioreactor process, and its design capacity is 125 kL/day. Chlorine dosing is employed prior to storage to facilitate the deactivation of pathogens. A summary of the expected TWW quality is provided, by the applicant, in Table 1 below (GHD 2023).

The WWTP includes 100 kL of operational storage, distributed across two 50 kL tanks. This storage serves the purpose of balancing flow and allowing adequate contact time for the deactivation of pathogenic microorganisms.

Additionally, an emergency storage capacity of 380 kL is available. This emergency storage is a

contingency measure for cases where the TWW disposal system encounters issues or when TWW does not meet specifications.

The proposed conveyance system is designed to transfer TWW from the WWTP to Tailings Storage Facility 4 (TSF4), located within the Talison Lithium mine site. This conveyance is achieved through a pipeline that runs parallel to Maranup Ford Road.

The conveyance process involves pumping approximately 125 kL/day of TWW into the TSF4 decant pond. It is noted that at the time of assessment of this works approval, construction of TSF4 was not complete, and following construction, relevant approvals for the use of TSF4 will need to be obtained prior to discharge commencing.

It is expected that the contribution of TWW into TSF4 represents an additional 0.4% water input to the overall slurry stream. From the TSF4 decant pond, the TWW is directed back into the MWC.

Table 1: Expected treated wastewater quality

Parameter	Units	Value
Biochemical oxygen demand (BOD)	mg/L	≤10
Total Suspended Solids (TSS)	mg/L	≤10
Turbidity	NTU	<2 (95 percentile)
Total Nitrogen (TN)	mg/L	≤15
Ammonia as N	mg/L	<1
Organic Particulate N	mg/L	1
Soluble non-biodegradable N	mg/L	2
Soluble nitrate as N	mg/L	11
Total Phosphorus (TP)	mg/L	≤2
Particulate P	mg/L	minimal
Soluble Orthophosphate	mg/L	~2
pH	pH units	6.5 – 8.5
E. coliforms	cfu/100 mL	≤1
Free chlorine	mg/L	0.2 - 2.0

2.2.3 Mine Water Circuit

The Talison Lithium Mine MWC encompasses several water storage components including mine water dams and TSFs, with seepage being collected and recirculated to the dams, and mine pits acting as sources of groundwater seepage.

The MWC is designed for water retention, catering to ore processing and tailings deposition. The mine water dams primarily store and provide water for ore processing and tailings deposition, with the replenishment loop involving tailings decant, seepage collection, and shallow subsurface drainage. The water supply originates from catchment runoff into the mine water dams and mine pits, groundwater discharge into the mine pits, and rainfall on the dam water surfaces and TSFs.

As detailed in the Recycled Water Quality Management Plan Framework provided by the applicant, historical discharges into the downstream environment, the Norilup Brook Catchment, have occurred via seepage and spillage of impacted process water, emanating from Southampton and Cowan Brook Dams.

Water balance modelling, undertaken by the applicant as part of the risk assessment for planned water dam raises at the licenced premises, indicated that raising the dams will result in significant

reduction in the probability of spills from Cowan Brook. Further, the spillway of the raised Southampton Dam will be redirected to Cowan Brook Dam, further reducing the future risk of overflow and spill events.

Mine water circuit quality and water balance

As part of this works approval application, the applicant obtained the services of an external consultant to assess historical water quality data from 1997 to 2023 in the MWC focusing on key monitoring points.

Data indicated that concentrations of phosphate (PO_4) regularly exceeded the ANZECC (2000) Physical and Chemical (PC) stressor value, indicating an existing risk of eutrophication within the MWC and the offsite Norilup Dam. Nitrate (NO_3) concentrations revealed fluctuating levels over time.

Clear Water Dam currently experiences algal blooms likely fuelled by inflowing decant from TSF2, which holds some of the highest NO_3 and PO_4 concentrations within the MWC. Control of algal blooms in other storage structures is attributed to lower overall nutrient levels.

Groundwater quality near TSF4 and surface water in Woljenup Creek indicates generally low nutrient concentrations. An exception lies in upper Woljenup Creek, where elevated NO_3 levels exceed the freshwater ecological guideline and PC stressor value. This is attributed to livestock effluent in the catchment's nearby paddocks.

The closed nature of the MWC has also resulted in increasing concentrations of key Contaminants of Potential Concern (CoPCs) over time, particularly lithium and arsenic. As a result, treatment facilities for the removal of lithium and arsenic have been constructed and utilised via licence L4247/1991/13.

A detailed risk assessment for the mine water circuit and contaminant removal was undertaken for the amendment to licence L4247/1991/13, as granted in December 2022. Specified actions to reduce seepage risk from the mine water circuit were placed on the licence at this time.

2.2.4 Wastewater input hydrogeological review

The department conducted a hydrogeological review to assess the suitability of the water and nutrient balance assessments conducted by the applicant for the proposed WWTP discharges to TSF4. This review confirmed that the proportion of TWW discharged to TSF4 is relatively small, accounting for only 0.4% of the total discharge. The review also highlighted the importance of considering phosphorus contributions from various sources, as phosphorus is a key nutrient influencing eutrophication.

The WWTP contribution of phosphorus to TSF4 represents a small proportion in relation to the total discharge, constituting approximately 4%. There are concerns regarding phosphorus release from tailings materials due to increased microbial activity as a result of dissolved organic carbon in TWW. However, it is unlikely that the input of TWW to the MWC would have significant impact, as the input of phosphorus in wastewater would be very small by comparison with its rate of release from sediments in the dams.

2.2.5 Mine Water Circuit hydrogeological review

As part of the review of the premises hydrogeological setting, some concerns were identified regarding internal eutrophication risk within the WMC, which can occur when large amounts of sulphate ions are input to a freshwater body which changes microbial populations in sediments and can result in potential phosphorus release. Historical nutrient deposits in the sediments of water storage dams may contribute to eutrophication. This is exacerbated by increased sulfate inputs from mine waste. Sulfate-reducing bacteria in the sediments have the potential to release phosphorus into the water column, creating favourable conditions for algal blooms.

The review highlighted the need for broader assessment of the mine water circuit and potential impacts on the environment downstream of the premises, and the potential for measure to be implemented to address the ongoing risk of algal blooms in water storage dams. In addition, there is

a need to consider the potential impact of increased seepage from dam walls, particularly regarding lithium and nutrient contamination.

2.2.6 Environmental commissioning

During environmental commissioning, the applicant has proposed monitoring of the performance of the WWTP to ensure it aligns with design specifications. However, the applicant has also advised that for up to 12 weeks, biological processes may not meet specified effluent quality standards (Refer to Table 1). Alarms will alert operators to deviations from operating parameters and effluent not meeting design specifications will be transported offsite via a licensed waste contractor, as will continue for operation. The applicant has proposed weekly validation sampling to guide process adjustments to the operation of the WWTP.

After commissioning, the applicant proposes to maintain the above controls with effluent sampling frequency reducing from weekly to monthly. This shift is based on the expectation that the biological process will have stabilised, providing a comprehensive dataset for ongoing assessment of the WWTP's consistent alignment with design criteria.

Once TWW has reached expected effluent quality, discharge is intended to be conveyed into TSF4. At the time of this works approval assessment however, final construction of TSF4 was not complete, and until relevant discharge and disposal approvals have been obtained for TSF4, the applicant will not be permitted to discharge TWW to TSF4 and the mine water circuit. Until this time TWW will be required to be transported offsite via a licensed waste contractor.

2.3 Legislative context

2.3.1 Part IV of the EP Act

The Greenbushes Lithium Mine was assessed and approved under Part IV of the EP Act and is subject to conditions of Ministerial Statement 1111 (EPA Report 1636).

The applicant submitted a Section 45C (s45C) 'Request to Amend a Proposal under the Environmental Protection Act 1986' for L70/232 to be included in the Development Envelope. The amendment included clearing and the construction of a worker accommodation village and was approved on 15 May 2023.

2.3.2 Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974

The proposed WWTP is subject to approval under the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974. An application for approval has been submitted to the Shire of Bridgetown-Greenbushes and the Department of Health by the applicant. A Permit to Use will be sought once the Village WWTP is constructed. The Delegated Officer notes that it is the responsibility of the applicant to obtain all necessary approvals for the construction and operation of the wastewater treatment plant.

2.3.3 Mining Act 1978.

The applicant must ensure that all mining operations comply with the approvals and tenement conditions outlined in the *Mining Act of 1978* (Mining Act). Any proposed changes to mining activities that fall outside the scope of these approvals will require an amendment.

The applicant has sought and obtained approvals via mining proposals related to TSF4 liner design as well as the development of an accommodation village and associated pipelines. The Delegated Officer notes that it is the responsibility of the applicant to obtain all necessary approval under the Mining Act.

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

Table 2: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Mobile equipment movement over unconsolidated soil, excavation, compaction; wind erosion.	Air / windborne pathway	<p>Planning of activities and implementation of management actions with consideration given to existing conditions, weather forecast and real-time dust monitoring.</p> <p>Review of earthworks program schedule to minimize period surfaces are bare/open progressive rehabilitation of disturbed areas.</p> <p>Application of dust suppressing stabilisers on appropriate surfaces and spray-on dust suppressants.</p> <p>Operation of water carts during dry/windy conditions and during summer months.</p> <p>Ceasing non-essential activities during excessively windy, high-risk conditions if dust cannot be adequately controlled.</p> <p>Speed limits in relevant work areas of 40 km/h</p> <p>Dust monitoring for the broader mine site is undertaken in accordance with Operating Licence L4247/1991/13.</p> <p>Site personnel will be educated on dust controls to be implemented at the Premises.</p> <p>All community complaints relating to dust will be recorded and investigated by the applicant.</p>
Noise	Operation of fixed plant and mobile equipment – excavation, construction		<p>The WWTP is sited at a location with limited nearby receptors.</p> <p>Modern, low noise emission equipment to ensure the amenity of camp residents and neighbouring land users.</p> <p>Restricting construction activities to during normal working (daylight) hours.</p>

Emission	Sources	Potential pathways	Proposed controls
			Mobile equipment used for construction will be operated and serviced in line with the manufacturer's specifications.
Hydrocarbon leaks/spills	Operation of fixed plant and mobile equipment – excavation, construction	Seepage to soil and groundwater	In the event of a leak/spill, the source will be isolated, and any contaminated soil remediated or disposed of to an appropriately licensed facility. No fuel storage or refuelling is proposed at the WWTP.
Contaminated or potentially contaminated stormwater	Erosion of unsealed surfaces causes sedimentation of surface water	Overland runoff Seepage to soil and groundwater	Routine facility inspection and maintenance programs to identify and remediate areas of increased risk. Progressive rehabilitation of disturbed areas which are at their final state, as part of the Site's ongoing rehabilitation program. Stage ground preparation/improvement activities to avoid large unsealed/cleared expanses. Install and maintain construction drainage systems to manage stormwater flows.
Commissioning and time limited operations			
Odour	Odours emitted from WWTP (leaks and other faults)	Air / windborne pathway	The WWTP is fitted with a series of alarms to alert the operator to scenarios where the WWTP is outside of the design operating parameters (e.g., excessively high/low pressure/flow, pump failure, backwash/filter operating incorrectly, insufficient/excessive chlorine/pH, excessive turbidity). WWTP maintenance will be undertaken in accordance with manufacturer specifications. All community complaints relating to odour will be recorded and investigated by the applicant.
Leaks/spills of sludge	Leak and/or spill from WWTP	Overland runoff Seepage to soil and groundwater	The WWTP is fitted with a series of alarms to alert the operator to scenarios where the WWTP is outside of the design operating parameters. The plant will have sludge production of 0.5m ³ per day. As such, the 50m ³ sludge storage tank will need to be emptied approximately monthly. The sludge will be removed by a suitably licenced contractor likely via a vacuum truck offsite to a suitably licenced facility.
Contaminated or potentially contaminated stormwater	Wastewater leaks and/or spill from WWTP		The WWTP is fitted with a series of alarms to alert the operator to potential leaks and other scenarios where the WWTP is outside of the design operating parameters. WWTP maintenance will be undertaken in accordance with the Installation, Operation and Maintenance Manual. The maximum amount of chemicals to be stored and utilised to support the operation of WWTP include 100L

Emission	Sources	Potential pathways	Proposed controls
			<p>each of Sodium hypochlorite (chlorine) and Polyaluminum chloride (flocculant).</p> <p>Spill kits will be in the vicinity of reagent storage areas.</p> <p>The WWTP will be placed upon a compacted earth pad with a surrounding earthen bund to contain any spills within the immediate vicinity of the WWTP and facilitate clean-up.</p> <p>In the event of a leak/spill, the source will be isolated, and any contaminated soil remediated or disposed of to an appropriately licensed facility.</p> <p>Spills will be reported as an environmental incident and investigated and reported.</p> <p>The system is fully automated to shut off to prevent overflow when circumstance require (e.g., when effluent tank is full).</p> <p>The high-level (float) alarm in the irrigation tank stops the decant pump from adding more to the tank.</p> <p>No fuel storage or refuelling is proposed at the WWTP.</p>
Wastewater discharges	Treated wastewater not meeting specifications contaminates MWC		<p>Validation monitoring for the first 6 weeks involves analysing weekly water samples for compliance.</p> <p>Validation testing spans 6-12 weeks due to expected water quality improvement.</p> <p>The WWTP is fitted with a series of alarms to alert the operator to potential leaks and other scenarios where the WWTP is outside of the design operating parameters.</p> <p>Continuous online monitoring will be undertaken for chlorine, pH, and turbidity to ensure it meets disposal criteria.</p> <p>Effluent monitored as per Recycled Water Quality Management Plan for water quality criteria confirmation (Refer to Table 1).</p> <p>Two 50m³ effluent tanks store and recirculate non-compliant effluent or transported offsite for disposal via a licensed waste contractor.</p> <p>If quality issues accumulate (>100m³), wastewater will be sent to a 380kL storage tank.</p> <p>Village WWTP has a total 480m³ of effluent storage (~92 hours capacity).</p>

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 3 and Figure 1 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 3: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Residential Premises	840m south-southwest of the proposed WWTP location (Refer to "A" in Figure 1). 2km east of the proposed WWTP location (Refer to "I" in Figure 1).
Downstream water users	Nearest about 600 m south from premises boundary/TSF4. Proposed WWTP 2km south-east of TSF 4
Environmental receptors	Distance from prescribed activity
Hester State Forest	Adjacent (north) and 2km west of the proposed WWTP location.
Blackwood River - Drainage line (tributary of Woljenu Creek)	500m east from proposed WWTP location to Woljenu Creek Tributary Woljenu Creek tributaries running through proposed TSF4 footprint.
Heritage Site (Blackwood River) The drainage line, Woljenu Creek and Blackwood River are listed as a Heritage Site under the Aboriginal Heritage Act 1972	500m east
Groundwater	The water table is close to surface (~1m) towards the base of the valley and within 100m of the main drainage line. Proposed WWTP location to avoid these locations. Shallow and deep aquifer beneath TSF4 footprint. Surface water- groundwater interaction
Threatened and priority flora and fauna	Flora 1.3km north north-west of the proposed WWTP location. Fauna within boundary of L4247/1991/13

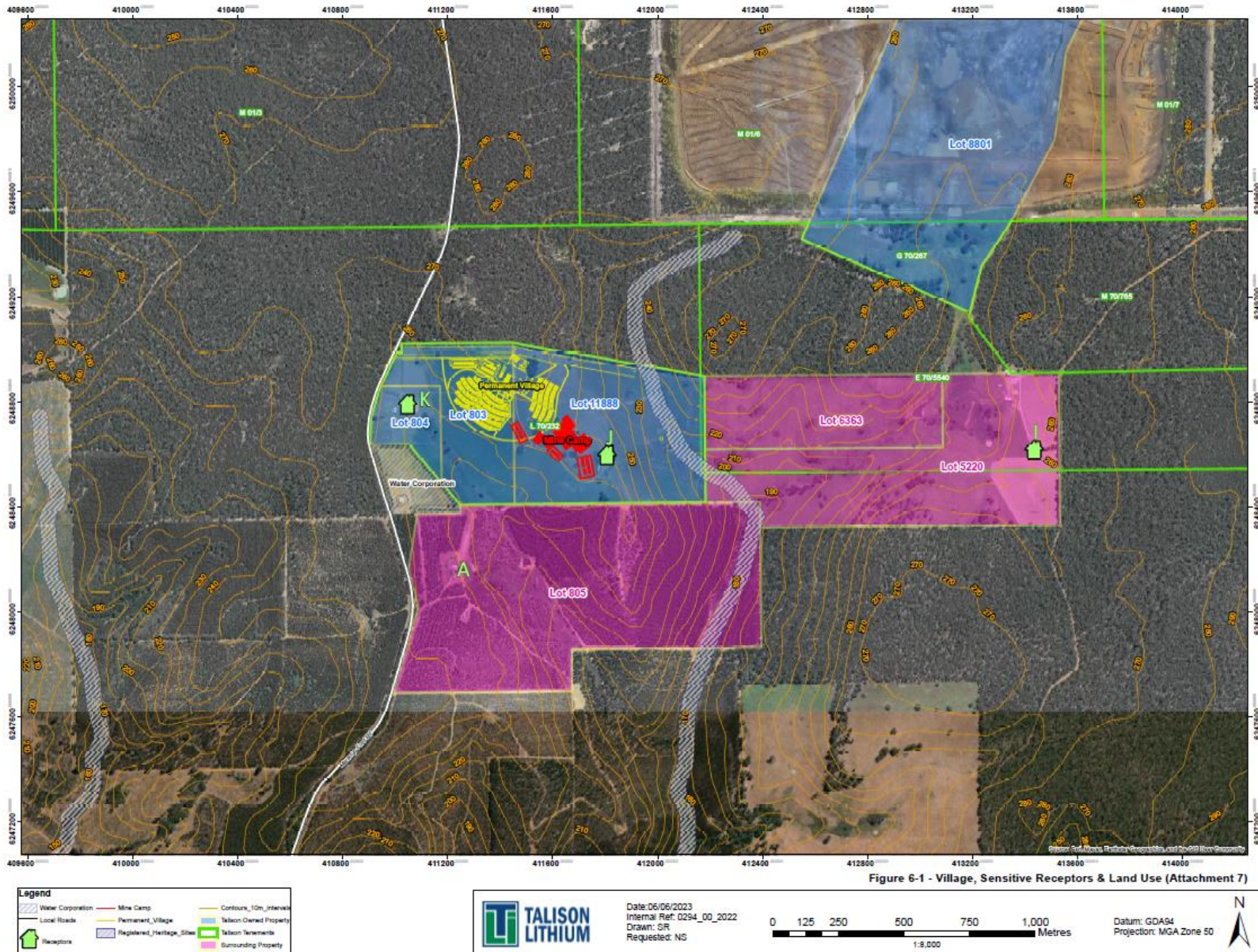


Figure 1: Location of residential receptors

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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 4.

Works approval W6832/2023/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 4 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises i.e. wastewater treatment and discharge activities. 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 4: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation

Risk events					Risk rating ¹	Applicant controls sufficient?	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood		
Construction							
Earthworks and construction of the WWTP including associated pipework	Dust	Air / windborne pathway causing impacts to health and amenity	Residential Premises 840m south-southwest 2km east of the proposed WWTP location. State forest, flora and fauna surrounding the premises.	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	The Delegated Officer considers there to be sufficient separation distance to mitigate the risk of dust.
	Noise			Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	The Delegated Officer considers there to be sufficient separation distance to mitigate the risk of noise. The Environmental Protection (Noise) Regulations 1997 apply.
	Hydrocarbon leaks/spills	Seepage of hydrocarbon contaminated water impacting groundwater quality	Drainage line (tributary of Woljenu Creek) 500m east from proposed WWTP location (also a heritage site). Depth to GW ~1m.	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	The Delegated Officer considers the applicant controls for managing hydrocarbon spills or leaks suitable for mitigating risk. Spills and leaks are regulated under the Environmental Protection (Unauthorised Discharges) Regulations 2004.
Commissioning and time-limited-operations operations							
Operation of WWTP	Odour	Air / windborne pathway causing impacts to health and amenity	Residential Premises 840m south-southwest 2km east of the proposed WWTP location.	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	The Delegated Officer considers that odour emissions are unlikely to impact sensitive receptors due to their short-term nature and considering that the nearest receptor is 840m away. Water quality monitoring is required to verify system performance with results reported at the completion of commissioning and time limited operation.
	Noise			Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	The Delegated Officer considers there to be sufficient separation distance to mitigate the risk of noise. The Environmental Protection (Noise) Regulations 1997 apply.

Risk events					Risk rating ¹	Applicant controls sufficient?	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood		
	Spills and leaks of sludge and treated/ untreated wastewater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality. Seepage of contaminated water impacting groundwater quality.	Drainage line (tributary of Woljenup Creek) 500m east from proposed WWTP location (also a heritage site). Depth to GW ~1m.	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Applicant controls regarding spill management have been imposed on the works approval.
	WWTP tank overflows and potentially contaminated stormwater			Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Applicant controls regarding overflow management and stormwater containment have been imposed on the works approval.
	Spills and leaks of chemicals			Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	The Delegated Officer considers the applicant controls for managing spills of hazardous material suitable for mitigating risk. Spills and leaks of chemicals are regulated under the Environmental Protection (Unauthorised Discharges) Regulations 2004.
Discharge of treated wastewater to TSF4 decant pond	Treated wastewater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality. Seepage of contaminated water impacting groundwater quality.	Drainage line (tributary of Woljenup Creek) 500m east from proposed WWTP location (also a heritage site). Depth to GW ~1m.	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	The Delegated Officer considers that the additional wastewater volume and nutrient loading associated with the WWTP is not likely to be a significant contributor to the Talison Lithium mine water circuit. Applicant proposed controls in relation to the discharge into TSF4 as well as the quality of treated wastewater have been imposed on the works approval. This assessment has highlighted the need for further risk assessment for nutrient loading within the MWC and the broader mine site premises, which will be assessed via a future DWER initiated licence amendment.

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

4. Consultation

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

Table 5: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 29 August 2023	None received	N/A
Local Government Authority (Shire of Bridgetown-Greenbushes) advised of proposal on 29 August 2023	None received	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal 29 August 2023	DMIRS replied on 26 September 2023 advising that geotechnical review had been undertaken and the proposed disposal of treated wastewater is unlikely to impact the structural stability of TSF4. DMIRS commented that some Mining Act approvals have been granted and some are yet to be sought.	Refer to Section 2.3.3
Department of Health (DoH) advised of proposal 29 August 2023	DoH replied on 3 October 2023 advising that an application for the construction of a permanent accommodation village for 500 persons, including a draft Recycled Water Quality Management Plan has been submitted and assessment is underway.	Refer to Section 2.3.2
Direct interest stakeholders (public) advised of proposal 29 August 2023	None received	N/A
Applicant was provided with draft documents on 16 October 2023 and provided comments on 6 November 2023	The applicant provided updated premises maps and diagrams, and provided updates on other approval requirements for the WWTP.	Noted and updated where relevant.

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.

As noted within this decision report, discharge of treated wastewater is not permitted to TSF4 and the mine water circuit until all relevant approvals for the operation and use of TSF4 have been finalised and granted (under construction under W6618/2021/1). This will involve

necessary amendments to the operating licence for the Talison lithium mine to allow the discharge of TWW to TSF4. Until this approval is obtained, should disposal of TWW be required (under environmental commissioning or time limited operations), the applicant will need to ensure that TWW is disposed offsite to appropriately authorised facility. It is the responsibility of the works approval holder to ensure they have obtained the appropriate approvals to authorise the discharge of TWW to TSF4.

As detailed in section 2.2.5, the hydrogeological review associated with this works approval assessment identified a potential risk associated with nutrient circulation and export within the Talison Lithium mine water circuit, regulated under L4247/1991/13. As not directly related to the activities and infrastructure assessed under this works approval, DWER intends to undertake a separate risk assessment on the premises mine water circuit, likely via a CEO initiated licence amendment. It is also acknowledged that site investigation activities, as recently required by L4247/1991/13, as well as research progressing on lithium toxicity will also inform this review and licence amendment.

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.
4. GHD 2023, *Recycled Water Quality Management Plan Framework - Disposal of Effluent from Talison Village WWTP to Mine Water Circuit*, Perth, Western Australia. (DWER document number: A2195625)

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY		
Application type		
Works approval	<input checked="" type="checkbox"/>	
Date application received	10 August 2023	
Applicant and Premises details		
Applicant name/s (full legal name/s)	Talisson Lithium Australia Pty Ltd	
Premises name	Talisson Greenbushes Lithium Mine	
Premises location	1130 Maranup Ford Road, Greenbushes WA 6254	
Local Government Authority	Shire of Bridgetown-Greenbushes	
Application documents		
HPCM file reference number:	DER2023/000532	
Key application documents (additional to application form):	Application supporting documentation	
Scope of application/assessment		
Summary of proposed activities or changes to existing operations.	Construction of the Village WWTP and associated infrastructure, with the intent of disposing wastewater into the mine water circuit.	
Category number/s (activities that cause the premises to become prescribed premises)		
Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 54: Sewage facility: premises – a) On which sewage is treated (excluding septic tanks): or b) From which treated sewage is discharged onto land or into waters. 100 m ³ or more per day.	125 cubic metres per day	N/A
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"/>	N/A
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: 1111 EPA Report No: 1636
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"/>	Mining lease / tenement <input checked="" type="checkbox"/> Expiry: L70/232, expiry: 20/04/2043 L70/244, applied for pending grant M01/3, expiry: 27/12/2026

		M01/6, expiry: 27/12/2026 M01/7, expiry: 27/12/2026
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	LGA planning approvals not required for activities regulated under the <i>Mining Act 1978</i> .
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"/>	CPS No: N/A No clearing is proposed.
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"/>	N/A
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, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Part IV of the EP Act (MS 1111) <i>Mining Act 1978</i> <i>Contaminated Sites Act 2003</i> <i>Aboriginal Heritage Act 1972</i> <i>Biodiversity Conservation Act 2016 and Biodiversity Conservation Regulations 2018</i> <i>Conservation and Land Management Act 1984</i> <i>Environmental Protection (Noise) Regulations 1997</i> <i>Health Act 1911</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
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"/>	Area of WWTP not a contaminated site. Licence (L4247/1991/13) area: Classification: contaminated – restricted use (C–RU) Date of classification: June 2007, and classified again October 2020