



## Application for Works Approval

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

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**Works Approval Number** W6835/2023/1

**Applicant** Talison Lithium Australia Pty Ltd

**File number** DER2023/000552~1

**Premises** Old Mill Road Workers Camp  
75 Old Mill Road, North Greenbushes, WA, 6005

Legal description -  
Part of Lot 3 on Deposited Plan 21157  
Certificate of Title Volume 2076 Folio 826  
As defined by the Schedule 1 premises maps attached to the  
issued works approval

**Date of report** 21/11/2023

**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 W6835/2023/1 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 23 August 2023, Talison Lithium Australia Pty Ltd (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) at the premises. The premises is approximately 1.1 km west of the town of North Greenbushes.

The premises relates to a Category 85: Sewage facility, with an assessed design capacity of 45 m<sup>3</sup> per day under Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations) which are defined in Works Approval W6835/2023/1. 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 W6800/2023/1.

#### 2.2.1 Proposed works

The proposed works will include installation of an aerobic treatment unit capable of treating up to 45 m<sup>3</sup> of sewage per day. The wastewater is disposed of via an irrigation sprayfield (approximately 14,000 m<sup>2</sup>).

The applicant requested the works approval scope include construction, commissioning and time-limited operations (TLO) of the WWTP and associated infrastructure.

#### 2.2.2 Premises operations

##### **WWTP**

The WWTP will receive raw sewage generated at the Old Mill Road Workers Camp via a Pump Station (PS) where it will undergo aerobic treatment, be chlorinated, and discharged to an irrigation field. The WWTP process is detailed below:

- (a) Raw wastewater is initially received into the anaerobic chamber where microorganisms feed, grow and multiply in the absence of free oxygen.
- (b) Partially treated wastewater is moved to the aerobic chamber where dissolved and non settleable (colloidal) solids are converted into carbon dioxide and a biological floc (sludge).
- (c) The effluent then flows into the clarification chamber where the sludge settles and is returned to the anaerobic chamber.

- (d) The effluent separated from the sludge then flows to the disinfection chamber where it passes through an automatic gravity chlorinator designed to achieve bacterial die-off.
- (e) After disinfection treated effluent flows to the pump out chamber. The submersible pump in this chamber is automatically controlled by a level switch to operate and shut down as per the effluent level.

The WWTP will treat effluent to meet the specifications in Table 1. Up to 45 m<sup>3</sup> will be produced per day if the maximum camp capacity of 250 personnel is reached.

**Table 1: Anticipated treated effluent quality**

Parameter	Concentration
BOD <sub>5</sub>	<20 mg/L
Total suspended solids	<30 mg/L
Total nitrogen	<20 mg/L
Total phosphorus	<8 mg/L
Thermotolerant coliforms	≤10 colony forming units (CFU)/100 mL
Residual free chlorine	0.2-2.0 mg/L
pH	6.5 – 8.5

Sludge produced by the WWTP will be collected in sludge tanks. Sludge will be removed periodically from the tanks by a licenced carrier and taken offsite for disposal at an appropriately licensed facility.

### **Irrigation Sprayfield**

The irrigation sprayfield has been sized and location of the irrigation sprayers determined with respect to local wind data. The outcome of the proposed layout is the minimisation of spray drift during windy conditions and to reduce the risk of treated wastewater leaving the irrigation sprayfield. To achieve this, the irrigation sprayfield will operate low trajectory large droplet impact sprinklers to discharge the treated wastewater.

## **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 and 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
<b>Construction</b>			
Dust	Vehicle and plant movements and associated activities.  Installation of third party purchased WWTP associated infrastructure.	Air/windborne pathway causing impacts to health and amenity.	Dust will be controlled using water carts  Vehicle speed limits in relevant work areas  The WWTP, OWS, vehicle washdown bay and associated infrastructure are an already constructed facility from a third-party supplier requiring minimal installation works onsite  Site personnel will be educated on dust controls to be implemented at the premises
Noise	Construction works of the WWTP	Air/windborne pathway causing impacts to health and amenity.	No noise outside of working business hours.  All mechanical equipment will be regularly checked and maintained  Use of modern, low noise emission equipment  The WWTP and associated infrastructure are an already constructed facility from a third-party supplier requiring minimal installation works onsite
Hydrocarbons and chemicals (spills and leaks)	Installation of third party purchased WWTP and associated infrastructure.	Overland runoff / migration into surface water ways potentially causing ecosystem disturbance or impacting surface water quality.  Localised contamination of soils causing impacts to amenity	All mechanical equipment will be regularly checked and maintained.  Spills to be immediately cleaned up.  WWTP will be placed upon a compacted earth pad with a surrounding earthen bund  Contaminated soils/material will be disposed offsite at an approved licensed facility.  Computerised monitoring system of the WWTP with an alarm that will raise an alert if malfunctioning. Alarms for the pump and the air blowers will be monitored daily
<b>Operation (including time-limited-operations)</b>			
Noise	Commissioning and time limited operation of the WWTP and irrigation spray field	Air/windborne pathway causing impacts to health and amenity.	No noise outside of working business hours.  All mechanical equipment will be regularly checked and maintained.  Use of modern, low noise emission

Emission	Sources	Potential pathways	Proposed controls
	Movement of vehicles and equipment (including reversing alarms).		equipment
Odour	Incorrect wastewater chemical treatment balance.  Storage of wastewater/solids.	Air/windborne pathway causing impacts to health and amenity	<p>Wastewater is treated prior to irrigation</p> <p>Regular inspection of equipment by a certified technician</p> <p>The WWTP will be commissioned in accordance with manufacturers specifications</p> <p>Computerised monitoring system of the WWTP with an alarm that will raise an alert if malfunctioning</p> <p>The WWTP is appropriately designed and operated to mitigate the risk of odour emissions</p> <p>Chlorine levels will be measured routinely in the field using the chlorine test kit and monthly via a NATA accredited laboratory</p> <p>All community complaints relating to odour will be recorded and investigated by Talison</p>
Wastewaters, contaminated stormwater and treated wastewater	<p>Spills/leaks of raw sewage, treated effluent, sludge and chemical.</p> <p>Discharge of wastewater to land prior to treatment</p> <p>Incorrect discharge rate to land</p>	Overland runoff, direct discharge and migration via soil to groundwater	<p>Desludging will be completed by Licensed Liquid Waste Contractor and will be disposed of at a suitably licenced facility</p> <p>Irrigation field is proportionally sized to take up nutrient without causing nutrient load on the land or soil</p> <p>Monitoring of discharge effluent quality and volume</p> <p>The irrigation sprayfield will operate up to low trajectory large droplet impact sprinklers</p> <p>Computerised monitoring system with an alarm that will raise an alert if malfunctioning</p> <p>Solid waste generated in the WWTP will be removed by a licensed contractor and disposed of to a suitable licensed facility.</p>

### 3.1.2 Receptors

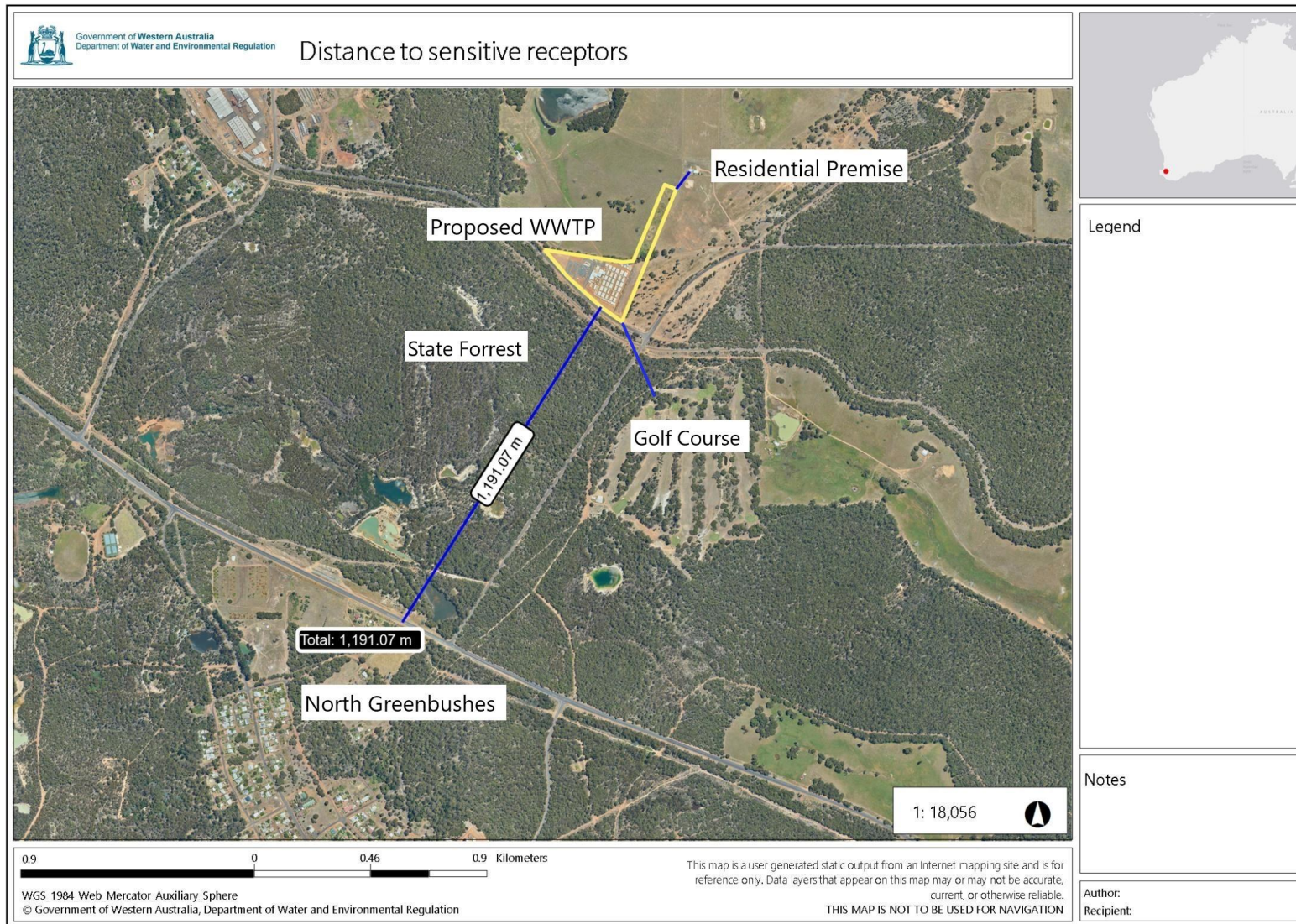
In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state 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	70 m north-east of irrigation sprayfield and 395 m north-west of WWTP
Catterick Golf Course	235 m south-east of boundary of premises
Township of North Greenbushes	1.1 km west of the premises
Environmental receptors	Distance from prescribed activity
State forest	Directly adjacent south
Underlying groundwater	1.5m – 23.77m below ground level. Groundwater at the premises occurs in a fractured rock aquifer which flows in a northeast direction. The closest bores with long term level data is a cluster of 16 bores within 1.3km of each other and approx. 4km northwest of the Premises. The data from these bores indicates the water level and TDS are highly variable.





**Figure 1: Distance to sensitive 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 W6835/2023/1 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. 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 <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Vehicle movements, installation of infrastructure and equipment	Dust	Air / windborne pathway causing impacts to health and amenity	Residential premise (70 m north-east of irrigation sprayfield and 395 m north-west of WWTP)	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	N/A	N/A
	Noise		Catterick Golf Course (235m south-east of WWTP boundary)	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	N/A	N/A
	Spills/ unintended releases of hydrocarbons or chemicals	Localised contamination of soils and groundwater causing impacts to amenity	Underlying groundwater	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Conditions 1 and 13	N/A

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Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Commissioning and Operation (including time-limited-operations operations)								
Commissioning and time limited operation of the WWTP and irrigation spray field (including equipment alarms)	Noise	Air / windborne pathway causing impacts to health and amenity	Residential premise (70 m north-east of irrigation sprayfield and 395 m north-west of WWTP)  Catterick Golf Course (235m south-east of WWTP boundary)	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	Conditions 1, 5, 13 and 19	N/A
	Odour							
	Discharge of partially treated wastewater (commissioning phase)	Localised contamination of soils causing infiltration into groundwater	Soil and groundwater	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Conditions 1, 5 and 13-16	N/A
	Discharge of treated wastewater	Localised contamination of soils causing infiltration into groundwater	Soil and groundwater	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Conditions 1, 5 and 13-16	N/A
	Spills/ unintended releases of untreated wastewater, solid waste or treatment chemicals	Overland runoff, direct discharge and migration via soil to groundwater.	Soil and groundwater	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Conditions 1, 5 and 13-16	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.

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## 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 25 September 2023	No responses received.	N/A
Local Government Authority advised of proposal on 3 October 2023	No response received.	It is the responsibility of the works approval holder to ensure all necessary approvals are obtained for the construction and operation of the WWTP.
Department of Health (DOH) advised of proposal on 3 October 2023	<p>DOH replied 20 October 2023 advising that:</p> <ul style="list-style-type: none"> <li>The proposal is required to comply with the requirements of the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 (the Regulations) and policies associated with the recycling of wastewater.</li> <li>The disposal area will be required to ensure it meets all minimum setbacks from winter creeks and waterways to the above Regulations and Government Sewerage Policy requirements and avoid spray drift to adjoining properties and sensitive land users including the camp accommodation.</li> <li>All drinking water provided on site must meet the health-related requirements and risk management framework set out in version 3.7 of the Australian Drinking Water Quality Guidelines 2011.</li> <li>Any non-drinking water (i.e., water that is not intended or suitable for drinking) must be managed to ensure it cannot be confused with or contaminate the drinking water supply. This requires satisfactory labelling of non-drinking water taps and, depending on system configuration, suitable backflow prevention arrangements.</li> </ul>	The department notes the response from DOH and this information is provided to the applicant in this decision report and has been taken into consideration in the works approval. It is the responsibility of the works approval holder to ensure all necessary approvals are obtained for the construction and operation of the WWTP.
Local Resident sent proposal on 3 October 2023	No response received.	N/A

Consultation method	Comments received	Department response
Applicant was provided with draft documents on 31 October 2023	The applicant replied on 20 November 2023 requesting requirement in Table 1, 1 (a) Containerised and enclosed WWTP aerobic treatment unit is re-worded or removed as the WWTP system is not specifically containerised.	The department notes this information and has reworded the condition by removing “containerised and enclosed”

## 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.

## 6. 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. DOH 1974, *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974*, Perth, Western Australia
4. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
5. National Health and Medical Research Council (NHMRC) 2011, *Australian Drinking Water Guidelines Paper 6 National Water Quality Management Strategy*, Canberra, ACT



## Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY		
<b>Application type</b>		
Works approval	<input checked="" type="checkbox"/>	
Date application received	23 August 2023	
<b>Applicant and Premises details</b>		
Applicant name/s (full legal name/s)	Talisson Lithium Australia Pty Ltd	
Premises name	Old Mill Road Workers Camp	
Premises location	Lot 3, 75 Old Mill Road North Greenbushes WA 6254	
Local Government Authority	Shire of Bridgetown-Greenbushes	
<b>Application documents</b>		
HPCM file reference number:	DER2018/001042-9-79	
Key application documents (additional to application form):	Proof of Occupier ASIC company extract Figures for WWTP Wastewater treatment and disposal design report DA Approval Discharge notification letter Amendment to DA Approval Wastewater treatment system technical and maintenance manual Maintenance agreement DOH Approval – construct or install for treatment of sewerage	
<b>Scope of application/assessment</b>		
Summary of proposed activities or changes to existing operations.	Construction of Wastewater Treatment Plant (WWTP) that will be part of Talison's Old Mill Road Camp.	
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 [ 85 ] 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	45 m <sup>3</sup> per day	N/A
<b>Legislative context and other approvals</b>		
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 type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:

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 checked="" type="checkbox"/> Expiry: 31 August 2027 Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Approval: Department of Health approval, Building Approval, Bridgetown-Greenbushes Shire P97/2017 Expiry date: 31 March 2028 (Building approval)
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"/>	Name: N/A Type: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Regional office: Swan Avon / Mid-West Gascoyne / Kwinana Peel / North West / South West / Goldfields / South Coast
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 <a href="#">WQPN 25</a> )? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
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 type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
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"/>	
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Classification: N/A Date of classification: N/A