



Amendment Report

Application for Works Approval Amendment

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

Works Approval
Number W6775/2023/1

Works Approval Holder Department of Communities

File Number DER2023/000068

Premises Yungngora Wastewater Treatment Plant

Legal description –

Part of Lot 255 on Deposited Plan 220190

Crown Lease PL N-049848

As defined by the coordinates in Schedule 2 of the works approval

Date of Report 8 December 2023

Decision Revised works approval granted

Steve Checker
MANAGER WASTE INDUSTRIES
REGULATORY SERVICES

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 Application summary	3
3. Risk assessment.....	4
3.1 Source-pathways and receptors	4
3.1.1 Emissions and controls	4
3.1.2 Receptors.....	5
3.2 Risk ratings.....	6
4. Consultation	9
5. Conclusion	9
5.1 Summary of amendments.....	9
References.....	9
Appendix 1: Application validation summary.....	10

1. Decision summary

Works Approval W6775/2023/1 (W6775) is held by Department of Communities (Works Approval Holder) for the Yungngora Wastewater Treatment Plant (the Premises), located at Part of Lot 255 on Deposited Plan 220190, Crown Lease PL N-049848.

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 construction Time-limited operations of the Premises. As a result of this assessment, Revised Works Approval W6775/2023/1 has been granted.

The Revised Works Approval issued as a result of this amendment consolidates and supersedes the existing Works Approval previously granted in relation to the Premises. The Revised Works Approval has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format.

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 Application summary

On 13 September 2023, the Works Approval Holder submitted an application to the department to amend Works Approval W6775/2023/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- An emergency temporary evaporation bund has been constructed at the Premises to manage existing historic overflow discharges from the Premises. The amendment application is to allow Time-limited operations of the temporary evaporation bund to complete W6775 construction activities which are not designed to overflow.

This amendment is limited only to changes to Category 54 activities from the Existing Works Approval. No changes to the aspects of the existing Works Approval relating to Category 54 have been requested by the Works Approval Holder.

Table 1 below outlines the proposed changes to the existing Works Approval

Table 1: Proposed design or throughput capacity changes

Category	Current design throughput capacity	Proposed design throughput capacity	Description of proposed amendment
54	150 m ³ /day	150 m ³ /day	No Changes

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 Time-limited operations which have been considered in this Amendment Report are detailed in Table 2 below. Table 2 also details the proposed control measures the Works Approval Holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Works Approval Holder controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Vehicle movement on unsealed surfaces	Air/windborne pathway	Yungngora Wastewater Treatment Plant (WWTP) located over 500 m from residences.
Noise	Vehicle movement on unsealed surfaces	Air/windborne pathway	WWTP located over 500 m from residences.
Odour	Normal and abnormal operations of the WWTP	Air/windborne pathway	WWTP located over 500 m from residences.
Overtopping	Acceptance and treatment of sewage	Overflow to surface water and soils	Temporary bund 150m x 150m x 0.5m for 11,250 kL storage.
Seepage of Treated Wastewater (TWW)	Acceptance and treatment of sewage	Seepage to soils and groundwater	<p>Primary and Secondary ponds Constructed to meet not greater than 1×10^{-9} m/s permeability.</p> <p>Geotechnical testing of soils at the WWTP have shown average permeabilities of 5.41×10^{-11} m/s (2016, 3 sites) and 2.16×10^{-9} m/s (2018, 3 sites).</p> <p>Effluent targets below ANZECC (1997) Category C – secondary treatment for infiltration Appendix 6 (BOD 30mg/L, TN 50mg/L and TP 12 mg/L).</p> <p>Separation distance to groundwater is ~400mbgl.</p>

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Works Approval 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)).

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

Human receptors	Distance from prescribed activity
<i>Residential premises</i>	<i>600 m southwest from the premises boundary</i>
<i>School</i>	<i>500 m southwest from the premises boundary</i>
Environmental receptors	Distance from prescribed activity
<i>Contaminated Sites</i>	<i>140 m southeast - Horizon Power Premises are classified 'remediated for restricted use'</i>
Major watercourses non perennial – <i>Fitzroy River</i>	<i>1.36 km south from the premises boundary and 1.46 km west from the premises boundary</i>
Area subject to Inundation – <i>Fitzroy floodplain</i>	<i>1.4 km west from the premises boundary</i>
Underlying groundwater – <i>Surficial alluvial aquifer</i> <i>Noonkanbah Formation aquifer</i> <i>Poole Sandstone aquifer</i>	<p><i>Seasonal groundwater levels within the alluvial aquifer underlying the premises are not available.</i></p> <p><i>Two potable drinking water bores used by the community are located approximately 900 m southwest of the premises. These bores are screened between approximately 398-497 mbgl within the Poole Sandstone aquifer (GG 2019).</i></p> <p><i>The Pool Sandstone is confined by the overlying Noonkanbah Formation which acts as an aquitard (DoM 1992). The Noonkanbah Formation is approximately 380 m thick in the area, lying between 20-400 mbgl (GG 2019). The Noonkanbah Formation is overlain by approximately 20 m of quaternary alluvial material (GG 2019, Harrington et al. 2011, Harrington and Harrington 2015, Lindsay and Commander 2005).</i></p> <p><i>The direction of groundwater flow has not been determined but is likely to be similar to surface topography with flows directing to the south and southwest towards the Fitzroy River (Harrington et al. 2011, Harrington and Harrington 2015, Lindsay and Commander 2005).</i></p>

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 in-complete they have not been considered further in the risk assessment.

Where the Works Approval 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 Works Approval Holder'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 Works Approval 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. Existing Works Approval W6775 risk assessed all relevant emissions from the Premises. The inclusion of the temporary evaporation bund will not alter or add additional new emissions to the Premises. The Amendment Risk Assessment will mostly review exiting emission controls in order to determine if they are sufficient or if additional controls are required to mitigate emissions from the temporary evaporation bund.

The Revised Works Approval W6775/2023/1 that accompanies this Amendment Report authorises time-limited operations of the temporary evaporation bund. The conditions in the Revised Works Approval 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. Sewage facility. A risk assessment for the operational phase has been included in this Amendment 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 Time-limited operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Works Approval Holder's controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Works Approval Holder's controls				
Construction (Including time-limited-operations operations)								
Operation of WWTP and temporary evaporation bund	Dust	Air/windborne pathway causing impacts to health and amenity	Residential premises: 600m southwest School 500m southeast	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	N/A	N/A
	Noise	Air/windborne pathway causing impacts to health and amenity	Residential premises: 600m southwest School 500m southeast	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	N/A	N/A
	Odour	Air/windborne pathway causing impacts to health and amenity	Residential premises: 600m southwest School 500m southeast	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	N/A	N/A
	Overtopping	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Vegetation adjacent to discharge area	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Existing Condition Table 1: Row 1(a)(b)(g)(h)(i)(j), 2(b)(c), 3(b), 4(b) Table 2: Row 1, 2(b)(c), 3(b),	Condition 8 will allow operation of the (already constructed) emergency temporary

Works Approval: W6775/2023/1

Risk Event					Risk rating ¹ C = consequence L = likelihood	Works Approval Holder's controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Works Approval Holder's controls				
							4(b), 5(b) <u>Condition 8</u>	evaporation bund while the WWTP is constructed. Once the WWTP has been constructed the bund will be decommissioned. As outlined in W6775 Decision Report the new WWTP will replace the old existing WWTP and will provide sufficient capacity to stop overflows into the environment. The new ponds will wrap around the existing WWTP which will remain in operation during the works until the new WWTP is constructed. A separate Works Approval may be submitted in the future to convert the existing ponds into a final evaporation pond, thereby increase capacity.
	Seepage	Seepage to soils and groundwater	Groundwater dependent ecosystems, subterranean fauna Depth to potable groundwater encountered at approximately 400-495mbgl	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Existing Conditions: Table 1: Row 1(c)(d) Table 2: Row 1, 2(b)(c), 3(b), 4(b), 5(b) <u>Table 1: Row 1(e)(f), 2(a), 3(a), 4(a), 5(a)</u> <u>Table 2: Row 2(a), 3(a), 4(a), 5(a)</u> <u>Condition 2, 3, 5</u> <u>Schedule 3</u> <u>Schedule 4</u> <u>Condition 8</u>	

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

Note 2: Proposed Works Approval 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
<i>Yungngora Aboriginal Community (YAC) advised of proposal (9/10/2023)</i>	<i>Comments were due 27/10/2023. No comments were submitted</i>	<i>N/A</i>
<i>Works Approval Holder was provided with draft amendment on 6/11/2023</i>	<i>Applicant responded on 4/12/2023. No comments on Amendment Report. New Figure 3 Map provided.</i>	<i>New figure 3 Map included in Works Approval.</i>

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Works Approval 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 Works Approval as part of the amendment process.

Table 6: Summary of works approval amendments

Condition no.	Proposed amendments
<i>8</i>	<i>Inclusion of the temporary evaporation bund in condition 8 to allow temporary operation of the bund while the new WWTP is constructed. The Bund will be decommissioned at the completion of construction of the WWTP.</i>
<i>Schedule 1 Figure 3 Map</i>	<i>New map outing the inclusion of the temporary evaporation bund.</i>

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 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 checked="" type="checkbox"/>	Current works approval number:	W6775/2023/1		
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					
Applicant and Premises details					
Applicant name/s (full legal name/s)		Department of Communities			
Premises name		Yungngora Wastewater Treatment Plant			
Premises location		Part of Lot 255 on Deposited Plan 220190 Crown Lease PL N-049848			
Local Government Authority		Shire of Derby West Kimberley			
Application documents					
HPCM file reference number:		DER2023/000068			
Key application documents (additional to application form):		Application Form			
Scope of application/assessment					
Summary of proposed activities or changes to existing operations.		Works approval amendment Construction Time-limited operations of temporary evaporation bund.			

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

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 54: Sewage facility	150m ³ /day	150m ³ /day – No changes

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 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 type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: 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: If N/A explain why?
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 approval required under W6775 due to exemption. Clearing occurred due to construction of the bund. Compliance matter submitted.
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: No clearing approval required under W6775 due to exemption. Clearing occurred due to

		construction of the bund. Compliance matter submitted.
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 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: P1 / P2 / P3 / N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to <u>WQPN 25</u>)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Note: If the proposed activity is not listed as a compatible land use with the PDWSA please consult with the relevant regional office (Regulatory Services - Water) and Water Source Protection (Science and Planning).
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"/>	If Yes include details here.
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If Yes include details of which EPP(s) here.
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If Yes, include details here, e.g. Site is subject to SO ₂ requirements of Kwinana EPP.

<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>If Yes include details here.</p> <p>Classification: N/A / possibly contaminated – investigation required (PC–IR) / not contaminated – unrestricted use (NC–UU) / contaminated – restricted use (C–RU) / remediated for restricted use (RRU) / contaminated – remediation required (C–RR) / decontaminated (Decon)</p> <p>Date of classification: N/A</p>
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