Amendment Report

Application for Licence Amendment

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

Licence Number	L8039/1994/3
Licence Holder	Water Corporation
DWER File Number	2010/003340-1 INS-0001587
Premises	North Geraldton Wastewater Treatment Plant Via Glenfield Beach Drive GLENFIELD WA 6532 Legal description – Being Lot 21 on Plan 19887 as defined by the premises map attached to the revised licence
Date of Report	7 October 2025
Decision	Revised licence granted

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1. Decision summary

Licence L8039/1994/3 is held by the Water Corporation (licence holder) for the North Geraldton Wastewater Treatment Plant (the premises), located at Lot 21 on Plan 19887, Glenfield, WA.

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 L8039/1994/3 has been granted.

This Amendment Report documents the amendments made pursuant to section 59 and 59(B) of the *Environmental Protection Act 1986* (EP Act).

The revised licence has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format. The decision report for the Existing licence will remain on the department's website for future reference and will act as a record of the department's decision making.

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 3 July 2025, the licence holder applied to the department to amend licence L8039/1994/3 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- An extension to the existing desludging containment area by extending the existing sludge drying bed, in order to improve the facility maintenance activity efficiency and enable more optimal desludging frequency.

The construction for the extension requires clearing of 0.27 hectares of native vegetation which includes existing cleared tracks within the sites prescribed premise boundary. This clearing will be conducted by the Licence Holder using Statewide Clearing Permit CPS185/8 as the clearing is to construct a building or other infrastructure at the existing Premises (Appendix B – (Water Corporation, 2025)).

The existing sludge drying bed was constructed in 2021 without authorisation and consists of a:

- 25 m wide by 70 m long sludge drying bed (geobag lay down area)
- 500 mm wide x 300 mm high embankment
- Compacted base
- LLDPE (Linear Low-density Polyethylene) 1.00 mm liner with 'L' shape anchors. The liner has a permeability of 2×10^{-10} m/s.

The department granted a revised licence which authorised the 'as constructed' operation of the bed and a leachate drain on 20 March 2023.

The application proposes to extend the bed to be 54 m wide by 74 m long, with the same requirements, in the location shown in Figure 1.

The design capacity and throughput remain unchanged.

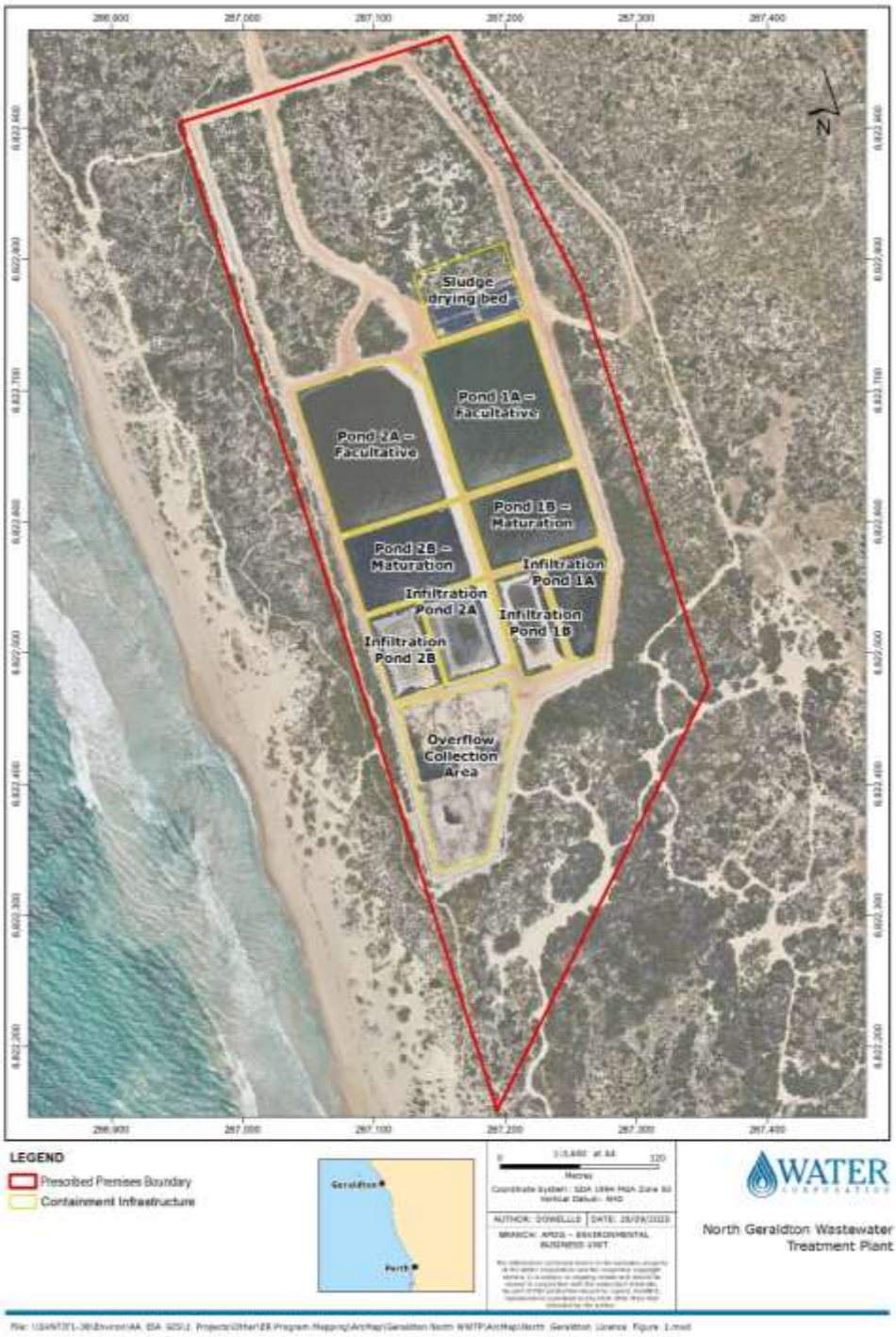

Figure 1: Revised Premises map showing the extended sludge drying bed area.

2.2.1 Administrative revisions

In amending the licence, the CEO has also:

- updated the format and appearance of the licence;
- removed any redundant conditions
- realigned condition numbers for numerical consistency; and
- corrected clerical mistakes and unintentional errors.

All changes as they relate to this revised licence are detailed in Section 4.1. The department has not undertaken any additional risk assessment of the premises related to previously assessed activities. The obligations of the licence holder have not changed in these administrative revisions to the licence.

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 2020a).

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 1 below.

Table 1 also details the proposed control measures the licence holder has proposed to assist in controlling these emissions, where necessary.

Table 1: Licence holder controls

Emission	Sources	Potential pathways	Proposed controls
Noise Dust	Construction of sludge drying bed extension.	Air/windborne pathway causing impacts to health and amenity	None specified.
Leachate	Leakage from sludge drying bed from stored geobags	Infiltration through soil to groundwater, potentially altering underlying groundwater and surface water quality (Indian Ocean)	Controls within the existing licence for the bed will apply, including compacted base and liner, and connection to existing leachate drain.
Odour	Desludging containment ponds involving pumping wet sludge into geobags located on sludge drying beds Storage of sludge in the temporary sludge drying bed.	Air/windborne pathway causing impacts to health and amenity	Controls within the existing licence apply.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020a), 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 2 and Figure 2 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental siting* (DWER 2020b)).

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

Human receptors	**Distance from activity / prescribed premises**
H1 – Nearest sensitive receptor - Residential dwellings	Lot 131 (849) Chapman Rd - 270 m east north-east of the of the Premises, and 320 m east of the proposed sludge drying bed. Lot 111 (756) Chapman Rd - 236 m southeast of the premises boundary and 765 m southeast of the proposed sludge drying bed.
H2 - Vacant 'Urban Development' zoned land	Lot 55 - Immediately adjacent to eastern boundary of the Premises and proposed sludge drying bed. Lot 9506 – 215 m north of the Premises boundary and 378 m north of the proposed sludge drying bed. Lot 9508 - 206 m south of the Premises boundary and 800 m south of the proposed sludge drying bed.
H3 - Macedonian Society of Geraldton – 839 Chapman Rd	261 m east of the Premises boundary and 317 m south-southeast of the proposed sludge drying bed.
Environmental receptors	**Distance from activity / prescribed premises**
Groundwater Superficial Swan aquifer Cattamarra Coal Measures North Confined aquifer	Groundwater monitoring data from the Premises indicates depth to groundwater is approximately 9-13 m below ground level. Regional groundwater flow is generally west towards the Indian Ocean. There are two licensed groundwater users within 1 km of the Premises, all upgradient, with the nearest being 770 m south southeast of the proposed sludge drying bed (GWL 158532 - City of Greater Geraldton). In 2018 the Premises was classified as 'Possible Contaminated – Investigation Required' (CSS Site 10869) based on groundwater monitoring required under the Licence identifying elevated nutrients.
Marine ecosystem - Indian Ocean	160 m west of the Premises boundary and 320 m west of the proposed sludge drying bed.
Native vegetation - Geraldton Hills IBRA subregion	Within and surrounding the Premises. 0.27 ha is proposed to be cleared.

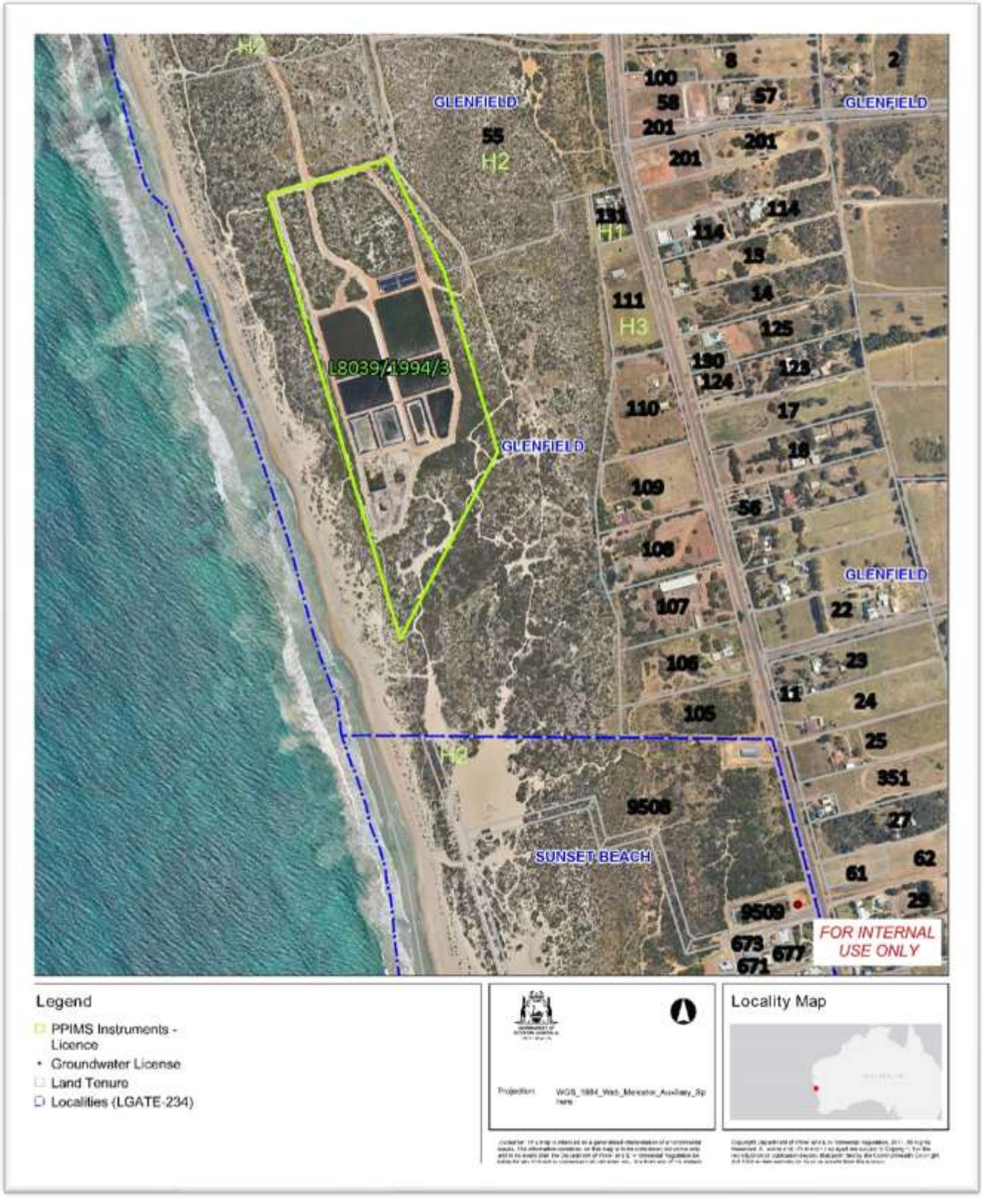

Figure 2: Distance to sensitive human and environmental receptors.

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020a) for those emission sources which are proposed to change and considers 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 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 the 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 3.

The revised licence L8039/1994/3 that accompanies this amendment report authorises emissions associated with the operation of the premises i.e. construction and operation of sludge drying Bed 2.

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

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

Risk Event					**Risk rating**[1] C = consequence L = likelihood	**Applicant controls sufficient?**	**Conditions**[2] **of licence**	**Justification for additional regulatory controls**
Source/Activities	**Potential emissions**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Construction of a larger sludge drying bed including clearing, bulk earthworks, vehicle and machinery movements	Dust	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	Residential receptors H1 and H3 300m east of the proposed sludge drying bed.	Refer to Table 1	C = Slight L = Unlikely **Low Risk**	Y	NA	The construction is minor and of limited duration, therefore no additional controls have been applied. Any noise emissions are adequately regulated by the provisions of the *Environmental Protection (Noise) Regulations 1997*.
	Noise							
Leaks from machinery/vehicles	Hydrocarbon or chemical spill	**Pathway:** Direct discharge to land. Overland flow and Infiltration through soil to	Indian Ocean 320 m west of the proposed sludge drying bed	Refer to Table 1		Y	Revised Condition 9 & 26	Minor hydrocarbon and chemical spillages can be adequately regulated by the *Environmental Protection (Unauthorised Discharges) Regulations 2004*.

Risk Event					Risk rating[1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emissions**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
		groundwater and marine ecosystems **Impact:** Ecosystem disturbance	Groundwater underlying Premises Native vegetation within and adjacent to Premises					
Construction of a larger sludge drying bed, including • liner installation • extension of and connection to existing leachate drainage system to Pond 1A	Nutrient rich leachate and suspended sediment due to failure of the leachate drain to contain leachate	**Pathway:** Direct discharge to land. Overland flow and Infiltration through soil to groundwater and marine ecosystems **Impact:** Ecosystem disturbance		Refer to Table 1	C = Slight L = Unlikely **Low Risk**	Y	**Revised Condition 1** Revised Condition 4, 8, 23, 26	Conditions 1 has been amended to include new bed dimensions. No other additional controls added as existing general conditions listed are sufficient to manage the risk.
Operation								
Standard operation of sludge drying bed infrastructure – dredging of sludge into, storing and draining, sludge geobags.	Odour	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	Residential receptors H1, and H3 300m east of the proposed sludge drying bed.	Refer to Table 1	C = Moderate L = Unlikely **Medium Risk**	Y	**Revised Condition 1** Revised Conditions 2, 4, 5, 8, 11, 26	Conditions 1 has been amended to include new bed dimensions. No other additional controls added as existing general conditions listed are sufficient to manage the risk.

Risk Event					Risk rating[1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emissions**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Leaks within the leachate drainage system between the sludge drying bed and Pond 1A	Nutrient rich leachate and suspended sediment due to failure of the leachate drain to contain leachate.	**Pathway:** Direct discharge to land. Overland flow and Infiltration through soil to groundwater and marine ecosystems **Impact:** Ecosystem disturbance	Indian Ocean 320 m west of the proposed sludge drying bed Groundwater underlying Premises Native vegetation within and adjacent to Premises	Refer to Table 1	C = Slight L = Unlikely **Low Risk**	Y	**Revised Condition 1** Revised Conditions 2, 4, 5, 8, 11, 26	Conditions 1 has been amended to include new bed dimensions. No other additional controls added as existing general conditions listed are sufficient to manage the risk.
Loss of containment within sludge drying bed	Nutrient rich leachate and suspended sediment due to damaged liner or damaged geobags in sludge drying bed.							

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. 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.

Summary of amendments

Table 4 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Licence as part of the amendment process.

Table 4: Summary of licence amendments

Existing condition	Revised condition	Condition amendment summary
All	All	References to 'shall' updated to 'must' as per current licensing wording. Minor subheading, numbering and wording changes to update all conditions into current licensing format and improve clarity with no changes to requirements or intentions of conditions. Correction of grammatical and typographical errors.
N/A	N/A	Licence history table updated to include this amendment.
1	Deleted	Redundant condition
2	Deleted	Redundant condition; 'manufacturer's specification' incorporated into revised condition 4.
3	Deleted	Redundant condition
14	Deleted	Duplication of existing condition 6 / Revised condition 13
20	Deleted	Redundant condition
24	Deleted	Redundant condition
25	Deleted	Redundant condition
9	1	Updated to current wording for clarity, with no changes to requirements or intentions of conditions. Table 1 updated to include correct references to infrastructure and include new sludge drying bed dimensions.
7	2	Updated to current wording for clarity, with no changes to requirements or intentions of condition.
8	3	Table 3 updated to remove the word 'targeted'.
10	4	Revised to include 'manufacturer's specification' for clarity following deletion of existing Condition 2.
11	5	Updated to remove the word 'targeted'.
12	6	Reordered to current format for improved readability.
13	7	Reordered to current format for improved readability.

Existing condition	Revised condition	Condition amendment summary
4	8	Updated to current wording for clarity, with no changes to requirements or intentions of condition.
15	10	Updated to current wording for clarity, with no changes to requirements or intentions of condition.
15 – Table 5	10 – Table 5	Table 5 updated to include correct references to infrastructure.
16	11	Reordered to current format for improved readability.
22	12	Updated to current wording for clarity, with no changes to requirements or intentions of condition.
22 – Table 7	12 – Table 6	Table 6 updated to include correct references to infrastructure.
6	13	Reordered to current format for improved readability.
21	14	Updated to current wording for clarity, with no changes to requirements or intentions of condition.
21 -Table 6	14 – Table 7	Updated to include correct references to infrastructure
23	15	Updated to current wording for clarity, with no changes to requirements or intentions of condition.
23 – Table 8	15 – Table 8	Amended to add reference to Figure 2 to monitoring point references, reference to AS/NZS 5667.1 for clarity.
17	16	Reordered to current format for improved readability.
18	17	Reordered to current format for improved readability.
19	18	Reordered to current format for improved readability
27	19	Reordered to current format for improved readability
28	20	Reordered to current format for improved readability
29	21	Reordered to current format for improved readability
26	22	Reordered to current format for improved readability
30	23	Reordered to current format for improved readability
30 – Table 9	23 – Table 9	Updated to current wording and format for clarity, with no changes to requirements or intentions of condition.
33	26	Updated to current wording and format for clarity, with no changes to requirements or intentions of condition.
Definitions – Table 12	Definitions – Table 12	Definitions added: ‘monthly’ ‘Western Australian Guidelines for Biosolids Management’ Definitions amended: ‘controlled waste’

Existing condition	Revised condition	Condition amendment summary
		'department/DWER' <u>Definitions deleted:</u> 'code of practice for the storage and handling of dangerous goods' 'dangerous goods'
Schedule 1: Maps Figure 1	Schedule 1: Maps Figure 1	Previous premises map replaced with updated version which also includes all containment infrastructure.
Schedule 1: Maps Figure 2	deleted	Deleted as updated Figure 1 contains all information required.
Schedule 1: Maps Figure 3	Schedule 1: Maps Figure 2	Map of containment infrastructure and monitoring locations replaced with updated version .

References

1. Department of Environment and Conservation (DEC) 2012, *Western Australian Guidelines for Biosolids Management,* Perth, Western Australia
2. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2020a, *Guideline: Environmental Siting*, Perth, Western Australia.
4. Department of Water and Environmental Regulation (DWER) 2020b, *Guideline: Risk Assessments*, Perth, Western Australia.
5. Water Corporation. (2025, July). Geraldton North Licence Amendment Supporting Information. Unpublished document.

Appendix 1: Summary of licence holder's comments on risk assessment and draft conditions

Condition	Summary of licence holder's comment	Department's response
	Amended figures as requested attached. Further engineering work has been done on the size, shape and design of the expanded sludge drying bed (SBD), and Water Corporation has determined that a single larger SBD will provide more flexibility than two small SDB (which Water Corporation initially requested). A single larger SDB will enable Water Corporation to use a combination of 20 m and 30 m long geobags when desludging which will allow greater flexibility and capacity during desludging. Water Corporation also considers that adding some flexibility to the liner requirement for the SDB will allow the use of thicker liners in either linear low-density polyethylene (LLDPE) or high-density polyethylene (HDPE).	Figure 1 and Figure 2 updated.
Condition 1 Tale 1 and Condition 4 – Table 4	Infrastructure and Equipment Please remove any reference to sludge drying beds 1 and 2 and geobag laydown areas from the table and the conditions of the licence and retain the reference to a single sludge drying bed and geobag laydown area.	The Delegated Officer considers that extending the existing sludge drying bed rather than constructing an additional separate bed as originally proposed does not change the associated risk assessment and ratings. The Delegated Officer considers that amending Condition 1 to require a polyethylene liner while retaining the same thickness and permeability requirements will allow for a HDPE liner to also be used, and this does not change the associated risk assessment and ratings. Conditions amended.
Condition 1 – Table 1	Please amend the requirements in Table 1 to the text below: a. **54 m wide by 74 m long** b. 500 mm wide x 300 mm high embankment c. constructed with a compacted base. Lined with a **1 mm or greater thick PE (polyethylene)** liner or equivalent, to achieve a permeability of 10^{-9} m/s or less and be capable of preventing surface run-off of leachate and sludge.	