Government of Western Australia
Department of Water and Environmental Regulation

Amendment Notice 5

Licence Number	L8721/2013/1
Licence Holder	Karara Mining Limited
ACN	070 871 831
File Number:	2012/008499
Premises	Karara Minesite Beneficiation Plant M59/644, M59/645, G59/38 and L59/99 PERENJORI WA 6620
Date of Amendment	**16/04/2019**

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act) as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

Alana Kidd
Digitally signed by Alana Kidd
Date: 2019.04.16 14:55:45 +08'00'

Alana Kidd

Manager, Resource Industries

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

Definitions and interpretation

Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Amendment Notice	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
DBCA	Department of Biodiversity, Conservation and Attractions
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DRF	Declared Rare Flora
DWER	Department of Water and Environmental Regulation
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
Licensee	Karara Mining Limited
Licence Holder	Karara Mining Limited

mbgl	metres below ground level
MS	Ministerial Statement
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
Occupier	has the same meaning given to that term under the EP Act.
PEC	Priority Ecological Community
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report.
Risk Event	as described in *Guidance Statement: Risk Assessment*
UDR	*Environmental Protection (Unauthorised Discharges) Regulations 2004* (WA)

Amendment Notice

This amendment is made pursuant to section 59 of the EP Act to amend the Licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

This notice is limited only to an amendment for Category 64. No changes to the aspects of the existing Licence relating to Categories 5 or 54 have been requested by the Licence Holder.

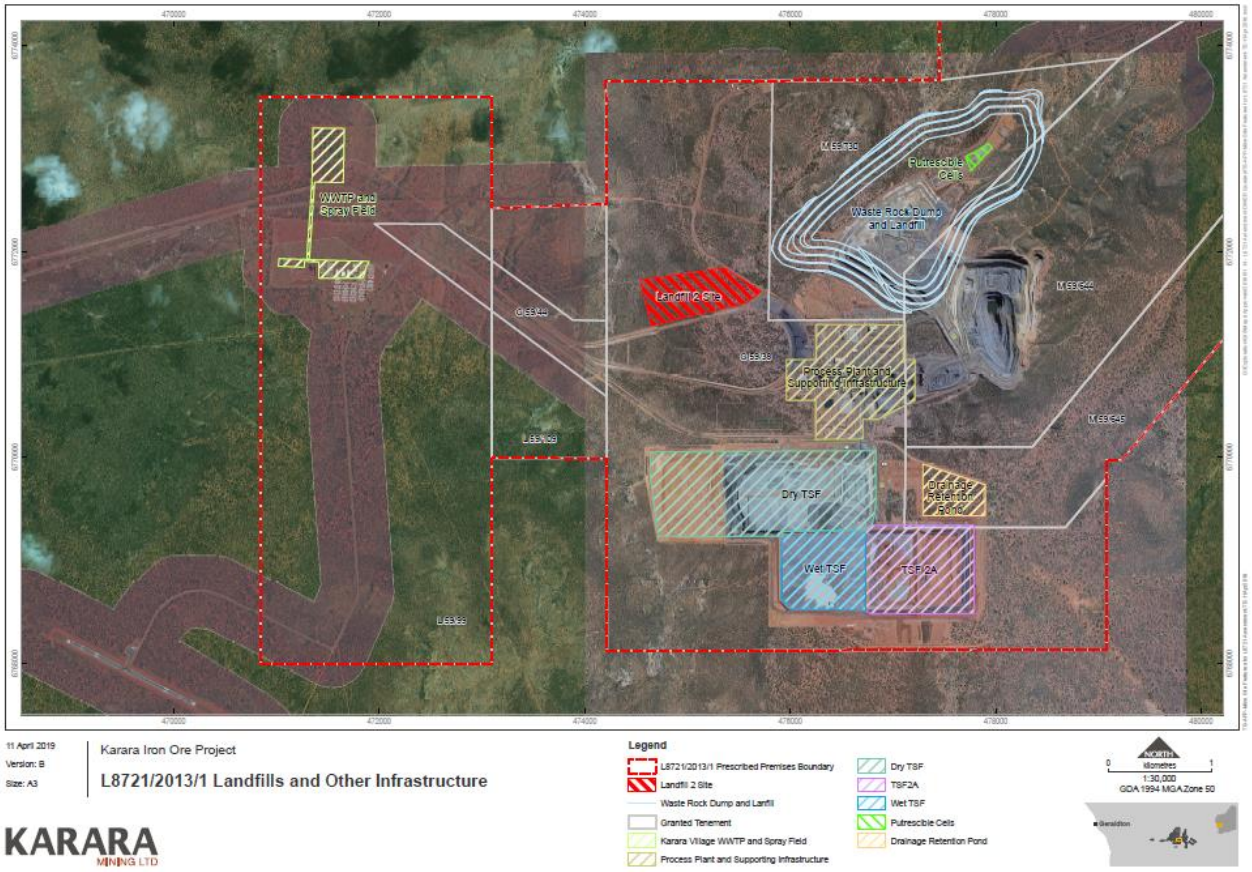
The following guidance statements have informed the decision made on this amendment

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Decision Making (February 2017)*
- *Guidance Statement: Risk Assessment (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*

Amendment description

On 7 May 2018, Karara Mining Limited (Karara) submitted an application for an amendment to Licence L8721/2013/1 Karara Minesite Beneficiation Plant to construct and operate a new category 64 landfill. The location of the new landfill is shaded in red and is named Landfill 2 in Figure 1 below.

Figure 1: Location of the proposed landfill



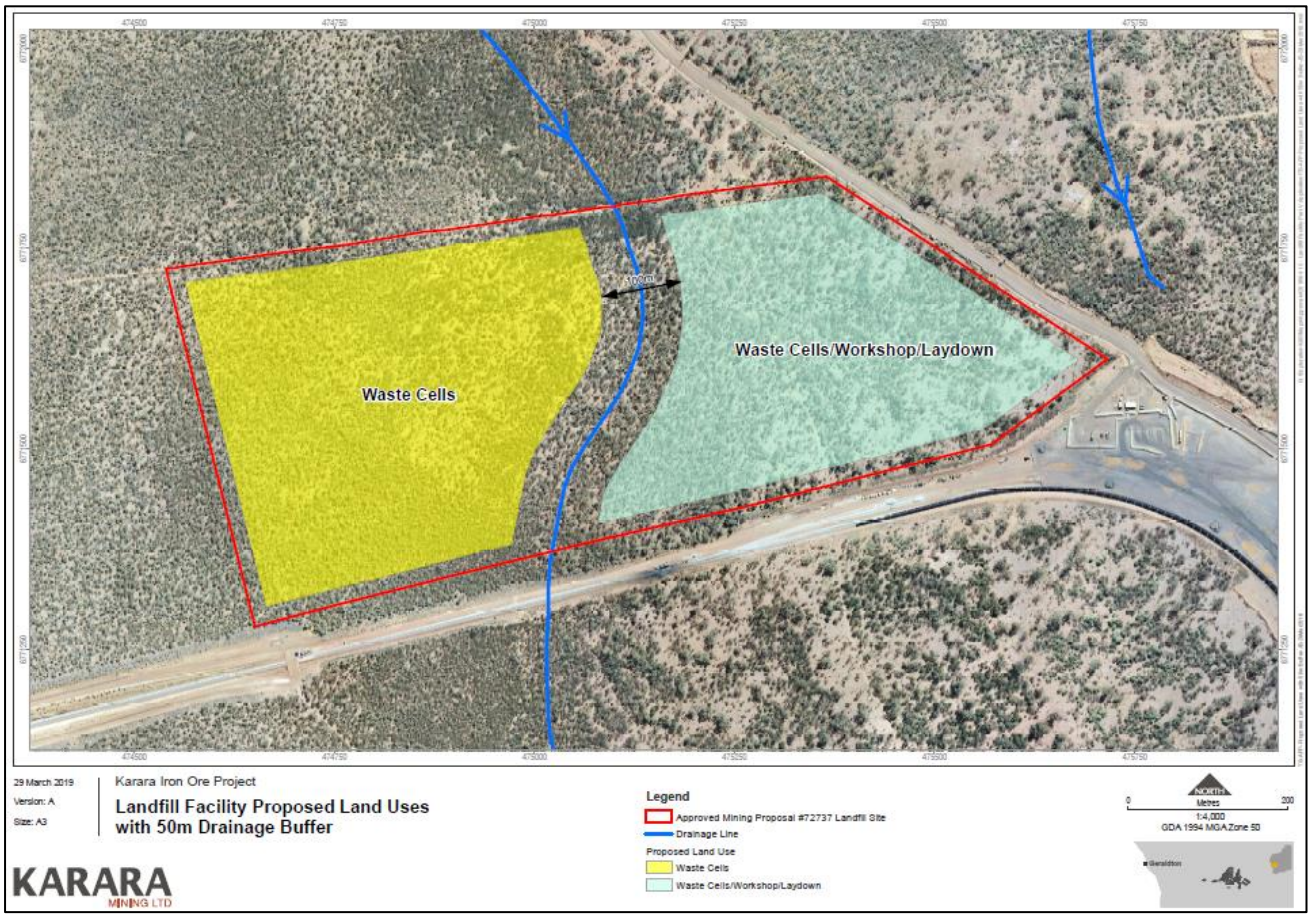
The existing putrescible cells will continue to be utilised until covered by the encroaching Karara Waste Rock Dump. Tyres will continue to be buried within the waste rock landfill area.

No change to the existing licence category 64 design or throughput capacity (up to 5,000 tonnes

per year) is required. Waste acceptance types remain the same, being Clean Fill, Inert Waste Types 1 and 2, Putrescible Waste, and other waste that meets the acceptance criteria for Class II landfills. Landfill management will remain the same, with some additional controls for Landfill 2.

The new landfill (Landfill 2) will have two areas designated for burial cells, and an area for a cells and workshop and laydown, as shown in Figure 2.

Figure 2: Landfill areas:



Other approvals

The Licence Holder has provided the following information relating to other approvals relevant to the proposal, as outlined in Table 2.

Table 2: Relevant approvals

Legislation	Number	
EP Act	MS 805	Approved 8 September 2009. MS 805 has no conditions referencing the non-mineral waste process. Condition 6-5 requires the proponent to monitor impacts from mining and mining related activities due to: 1. dust; 2. saline water application for dust; 3. fire; and 4. feral species on the Blue Hills vegetation complex Priority Ecological Community

		(PEC) . Condition 6-6 requires proponent to immediately provide and implement proposed management measures for outcome of minimizing disturbance or loss of the PEC. The disturbance footprint was amended and includes the proposed new landfill area, approved 8/03/2019 and shown in Attachment 5 of the MS.
Mining Act 1978	Reg. Id 72737 Karara Iron Ore Project - Stage 4 - Years 7 to 12	Decided 17/07/2018

EP Act Part V Instrument history

Table 3 provides the instrument log of the licences and works approvals related to L8721/2013/1 that have been issued.

Table 3: Instrument log

Instrument	Issued	Amendment
W4596/2009/1	10/12/2009	Works Approval - Karara Landfill Facility
W4615/2009/1	12/02/2010	Works Approval - Karara Minesite Beneficiation Plant
W4620/2009/1	05/03/2010	Works Approval – Waste Water Treatment Plant
L8486/2010/1	09/12/2010	Licence – Waste Water Treatment Plant
L8721/2013/1	16/05/2013	Licence - Karara Minesite Beneficiation Plant
L8721/2013/1	26/09/2013	Amendment Licence - Karara Minesite Beneficiation Plant
W5545/2013/1	20/01/2014	Works Approval – wet tailings TSF1
W5664/2014/1	11/07/2014	Works Approval – wet tailings TSF2 (Stage 1 and Stage 2) Note: Karara has advised this TSF infrastructure will not be constructed.
L8721/2013/1	11/11/2015	Amendment to include wet TSF1 and amalgamate L8486/2010/1 (WWTP) and include the Landfill.
W5545/2013/1	17/12/2015	Amendment for raise and extension of wet TSF1.
L8721/2013/1	29/04/2017	Notice of Amendment to extend licence expiry date to 19 May 2021
L8721/2013/1	30/06/2017	Amendment Notice #1 to include Phase 1 (raise) of TSF1, change the premises boundary and increase category 5 production capacity.
L8721/2013/1	08/01/2018	Amendment Notice #2 for the construction of TSF 2A and TSF 2B.
L8721/2013/1	03/08/2018	Amendment Notice #3 for construction of internal embankment within TSF2A
L8721/2013/1	18/12/2018	Amendment Notice #4 for addition of a wet concentrate storage facility
L8721/2013/1	16/04/2019	Amendment Notice #5 for the construction and operation of new Landfill 2.

Location and receptors

The Karara Minesite is located 65 km north east of Perenjori.

Table 4 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 4: Receptors and distance from activity boundary

Residential and sensitive premises	Distance from Prescribed Premises
Karara Homestead.	Approximately 7 km southwest.

Table 5 below lists the relevant environmental receptors which may be receptors relevant to the proposed amendment. Figure 4 shows environmental receptors in the vicinity of the landfill areas.

Table 5: Environmental receptors and distance from activity boundary

Environmental receptors	Distance from Prescribed Premises
Biological receptors	
Priority Ecological Community (PRC) - Blue Hills vegetation complex.	Occurs on ridges. The PEC is located approximately 1.5 km east of the proposed landfill (Figure 1).
One Declared Rare Flora (DRF), 20 Priority Flora and four other taxa of conservation significance.	Occurs on the premises. See Figure 1 for location in the vicinity of the proposed landfill.
Three invertebrate and 15 vertebrate species of conservation significance.	Recorded during a fauna survey of the mine site, or are very likely to be present. See Figure 1 for fauna location in the vicinity of the proposed landfill.
Department of Biodiversity, Conservation and Attractions (DBCA) managed land	The licensed premises is located entirely within DBCA managed land.
Groundwater	
RIWI Act proclaimed Area - Gascoyne Groundwater Area – Mullewa/Byro Sub Area.	The Premises is located within the Gascoyne Groundwater Area.
Pastoral bores and wells associated with Karara Station - Mungada Bore and Van's Bore still in use. (Information from Wave, 2017 and DWER's Water Information Database)	Variously on the premises and in the local vicinity of the premises. Further information for groundwater is detailed below.
Surface water	
Ephemeral watercourses that lead towards the Mongers Lake paleo-drainage 21 km to the south (Figure 3 below).	A weakly defined ephemeral drainage line runs through the centre of the landfill site, flowing southerly (as shown in Figure 2 above and Figure 3 below).
Inland water body (~ 86 ha)	6 kilometers north east of the proposed landfill area.

Figure 3: Surface water features

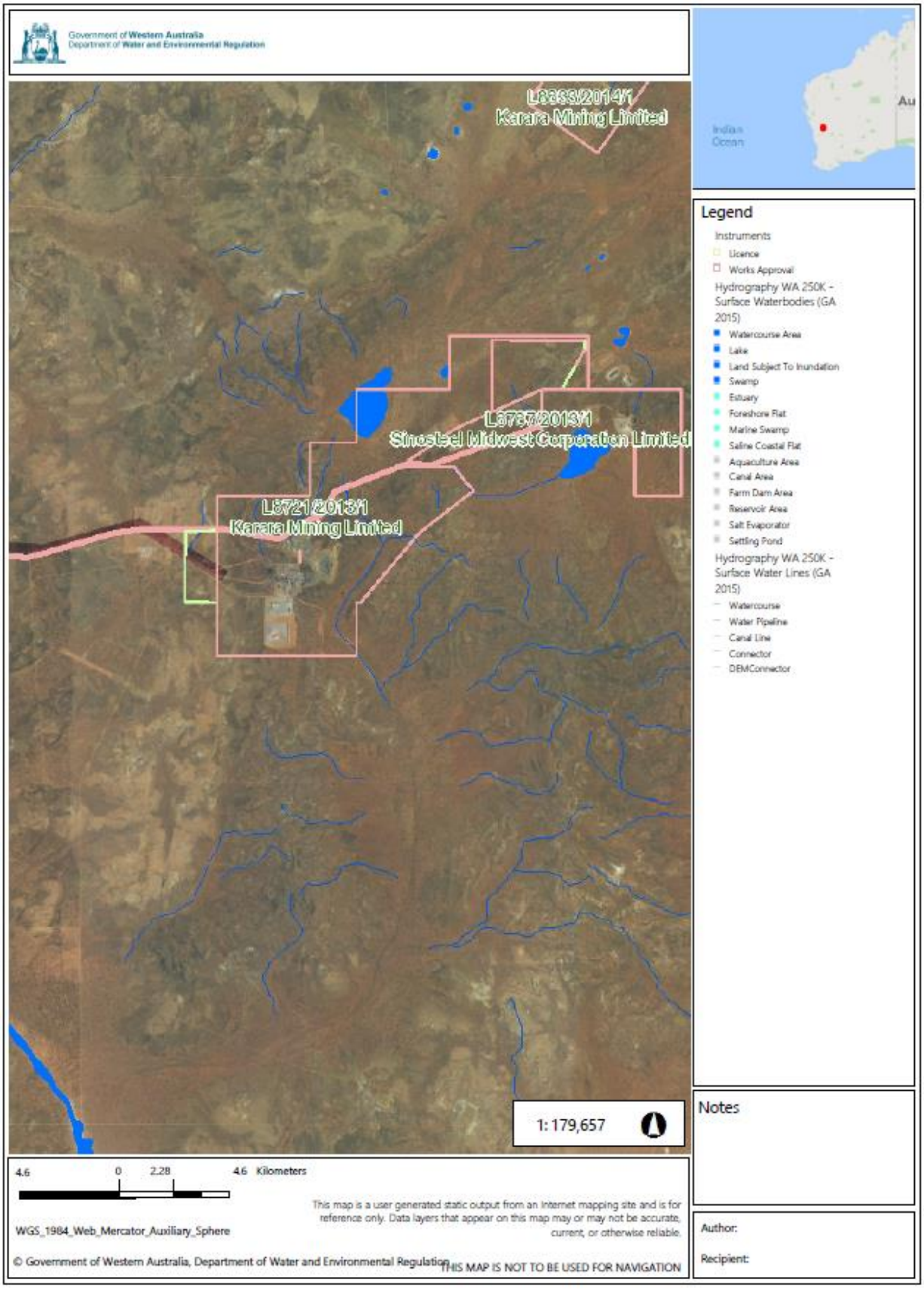
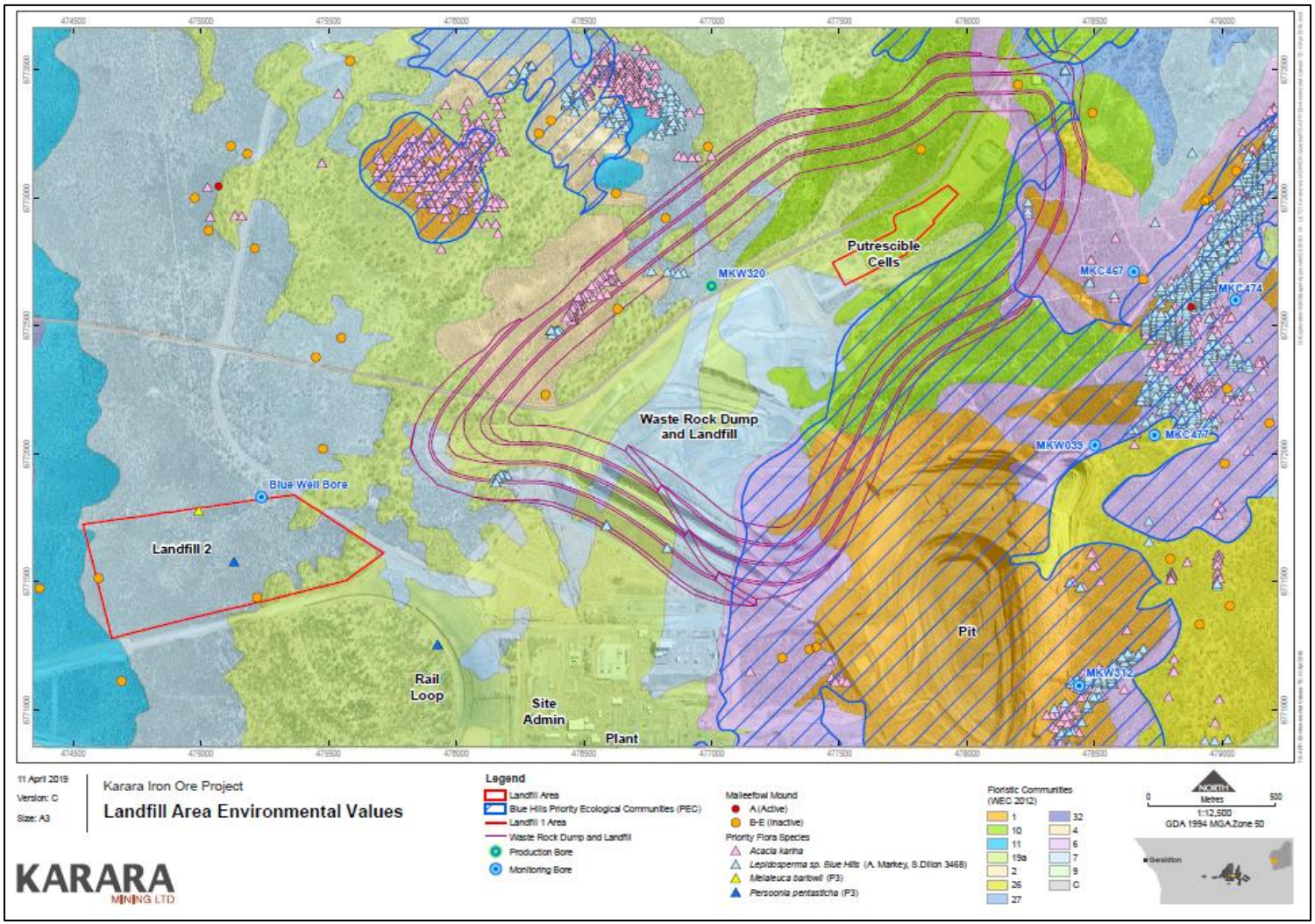


Figure 4: **Landfill areas - groundwater monitoring bores and other receptors**



Hydrogeology

Aquifers in and around the mine-site are mainly in fractured banded ironstone formation (BIF). Where these rocks are fractured or jointed, some minor perched aquifers within the BIF in the Mt Karara Ridge could exist.

Groundwater

The Application states that groundwater at a nearby monitoring bore within the rail loop was recorded at 50 mbgl. Karara provided further information (email 12/04/2019) that Blue Well Bore (as shown in Figure 4) is located 20 m from proposed Landfill 2 and depth to water is 24.4 mbgl (as shown in Table 6 below).

Groundwater at Karara mine site is generally fresh to brackish near the water table. Salinity at existing monitoring bores within the mine site area range from 600 to 81,000 mg/L Total Dissolved Solids (TDS). The groundwater is slightly acidic to slightly alkaline (pH 6.8 to 8.6) and is of a sodium chloride type, with proportionately high sulfate concentrations (Wave, 2017).

Table 6: Depth to Groundwater

Bore ID	Distance to Landfill 2 (m)	Depth to groundwater (m)
Blue Well Bore	20	24.4
MKW320	390	58.2
MKW039	2,915	24.5
MKC467	3,212	**83.7**
MKC474	3,727	32.9
MKC477	3,132	46.0
MKW312	2,870	48.2

Topography and soils

The landfill location is within the Murchison soil-landscape province, and situated within Land System 3 – level to gently undulating plains. Soils tend to have a higher clay content and less frequent occurrence of coarse rock fragments than soils of the upper slopes.

Meteorology

The Karara area has a semi-arid climate with hot dry summers and cool, moderately wet winters. The Application states that the monthly average rainfall during the rainy season is approximately 34 mm.

The Karara Minesite is located approximately 70 km east of Morawa which recorded a highest monthly rainfall of 132 mm in May 1999 (from Bureau of Meteorology website climate data)

Risk assessment

Table 7 below describes the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. The table identifies whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Table 7: Risk assessment for proposed amendment during construction and operation.

Risk Event								
Source/ Activities	**Potential emissions**	**Potential receptors**	**Potential pathway**	**Potential adverse impacts**	**Consequence rating**	**Likelihood rating**	**Risk**	**Reasoning**
Earthmoving during landfill cell construction and covering of waste	Dust	Closest sensitive land use is Karara Homestead about 7 km away	Air	Health and amenity impacts	**N/A**	**N/A**	**Low**	Distance to closest sensitive receptor is sufficient to inform the risk of dust emissions as not foreseeable. The general provisions of the EP Act are applicable.
		PEC - Blue Hills vegetation complex - 1.5 km east Flora of conservation significance on the premises		Smothering of vegetation - reduced health and viability of a PEC, DRF and priority flora	**Minor** Low level on site impacts	**Rare** The risk event may only occur in exceptional circumstances	**Minor** Low level on site impacts	Fugitive dust is expected to be low in relation to dust from the whole premises. The PEC and priority flora are not in the immediate vicinity. MS 805 requires the PEC to be monitored and managed for impacts of dust from mining operations – fugitive dust at the premises is monitored and managed. <u>Applicant controls</u> Dust is managed to reduce impact to the PEC, and in accordance with the KML Environmental Plan – *Dust Management CORP-EN-PLN-1010* which includes site dust monitoring. <u>Decision and Regulatory controls</u> Condition 2.3 requires dust emissions are managed in accordance with the

								dust management plan. No change is required to manage dust from the new landfill.
Earthmoving during cell construction and covering of waste	Noise	Karara Homestead about 7 km away	Air	Amenity impacts	**N/A**	**N/A**	**N/A**	Distance to closest sensitive receptor is sufficient to inform the risk of noise emissions as not foreseeable. The *Environmental Protection (Noise) Regulations 1997* are applicable.
Operation of earthmoving vehicles during construction of landfill cells and operation of the landfill	Fuel spills	Soils and ground	Direct discharge	Hydrocarbon contamination of soils and ground at location of the spill	**Minor** Low level on site impacts	**Unlikely** The risk event will probably not occur	**Medium**	<u>Applicant controls</u> Spillages contained and managed by the use of absorbent material and the excavation and removal of contaminated soil to the site bioremediation facility or, if not possible, an off-site licensed facility in accordance with the KML Environmental Plan – Environmental Waste Management CORP-EN-PLN-1013. <u>Decision and Regulatory controls</u> The *Environmental Protection (Unauthorised Discharges) Regulations 2004* are applicable.
Operation of the landfill	Odour associated with putrescible and windblown waste	Karara Homestead 7 km away	Air	Amenity	**N/A**	**N/A**	**N/A**	Distance to closest sensitive receptor is sufficient to inform the risk of odour as not foreseeable. The general provisions of the EP Act apply.
		Scavengers and indirect receptors – vegetation and fauna of conservation significance.		Increase in scavengers/vermin. Potential alteration to local ecosystems.	**Minor** Low level on site impacts	**Unlikely** The risk event will probably not occur in most circumstanc	**Medium**	Scavengers have the potential to travel distances, thrive, and alter ecosystems. <u>Applicant controls</u> • Landfilling limited to 5,000 tonnes per year. • The active landfill trench fenced and gated to minimise access to animals.

						es.		• The tipping area clearly defined to restrict access to one trench only. • Waste covered weekly to at least 300 mm so that no waste is left exposed. <u>Decision and Regulatory controls</u> Applicant controls have lowered the risk of odour and windblown waste and are conditioned in the existing licence by conditions 1.3.3, 1.3.4 and 1.3.5. Condition 1.3.3 will be amended to include the applicant controls of fencing of trenches and for the tipping area to be clearly defined to access one cell only, because these controls further reduce the risk of some scavenger types accessing the site, limits surface area of waste exposed to scavengers, and reduces windblown waste.
	Stormwater containing Class II Landfill waste and leachate	Ephemeral water lines. Mongers Lake paleo-drainage is 21 km to the south.	Path of stormwater flow	Drainage lines contaminated with landfill waste solids and leachate	**Minor** Low level on site impacts	**Possible** The risk event could occur at some time	**Medium**	A weakly defined ephemeral drainage line runs through the centre of the Landfill area, as shown Figure 2. <u>Applicant controls</u> • Landfilling limited to 5,000 tonnes per year. • Natural drainage lines avoided from disturbance or location of landfill cells - landfill cells located as indicated within Figure 2. • Trenches enclosed by earthen bunds 1 m above ground level, diverting stormwater away from cells. • Signage stating authorised access only, for controlled access for waste type deposition. <u>Decision and Regulatory controls</u> Waste trenches/cells will be located on either side of the drainage line and there is a risk of waste and waste contaminated stormwater entering the

								drainage line. The existing Condition 1.3.3 limits disposal of waste to 5,000 tonnes per year, requires waste to be 100 m from any surface water body and waste to be placed within a defined trench or within an area enclosed by earthen bunds, and tipping face restricted to 3 m height. Given the Landfill 2's proximity to the drainage line, Condition 1.3.3 will be amended to also specify: • Waste required to be at least 50 m from any surface water body including drainage lines; • Trenches enclosed by earthen bunds to be 1 m above ground level; and • Water that has come into contact with waste to be retained on the landfill.
	Landfill leachate	Groundwater of beneficial use	Infiltration through ground	Contamination of groundwater – potentially with nutrients, metals and metalloids.	**Minor** Low level on site impacts	**Unlikely** The risk event will probably not occur in most circumstances.	**Medium**	Groundwater at the Karara mine site is generally fresh to brackish near the water table, and may have beneficial use as livestock drinking water. Up to 5,000 tonnes per year will be buried – including putrescibles and other Landfill Class II type wastes Water at Blue Well bore 20 m from the proposed landfill was recorded at 24.4 mbgl. <u>Decision and Regulatory controls</u> Condition 1.3.3 requires waste to be at least 3 m from the water table aquifer, and limits the amount of waste buried each year. These requirements remain applicable to manage the risk of leachate seepage from new Landfill 2.

Decision

Approval for the construction and operation of the proposed landfill is granted. The landfill is named Landfill 2.

Condition 1.3.3, Table 1.3.3 of the existing licence remains applicable to management of Landfill 2. In addition, Applicant controls for Landfill 2 that have further lowered risk, are added to Table 1.3.3. Given the location of a minor drainage line intersecting the landfilling area of Landfill 2, additional requirements are added to ensure separation of Landfill 2 waste and stormwater. Decisions and rationale are outlined in more detail in the Risk Assessment Table 6 above.

Schedule 1 Maps are updated to include Landfill 2, and key infrastructure on the premises.

Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 29 March 2019. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 2.

Amendment

1. Condition 1.3.3 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the text shown in bold underline below:

1.3.3 The Licensee shall ensure that where wastes produced on the Premises are not taken off-site for lawful use or disposal, they are managed in accordance with the requirements in Table 1.3.3.

Table 1.3.3: Management of waste

Waste type	**Management strategy**	**Requirements**
Sewage	Biological, physical and chemical treatment	• No more than 540 m^3 per day. • Sludge drying beds on a bunded hardstand and disposal of dry sludge to the premises landfill.
Clean Fill Inert Waste Type 1 and 2[1] Putrescible Waste	Receipt, handling and disposal of waste by landfilling	All **landfills and** waste types • No more than 5,000 tonnes per year of all waste types cumulatively shall be disposed of by landfilling. • Disposal of waste by landfilling shall only take place within the landfill**ing areas** shown on **Map 2,** Map 5 **and Map 11** of Schedule 1. • Waste shall be placed in a defined trench or within an area enclosed by earthen bunds; • The active tipping face shall be restricted to a maximum vertical height of 3 m.

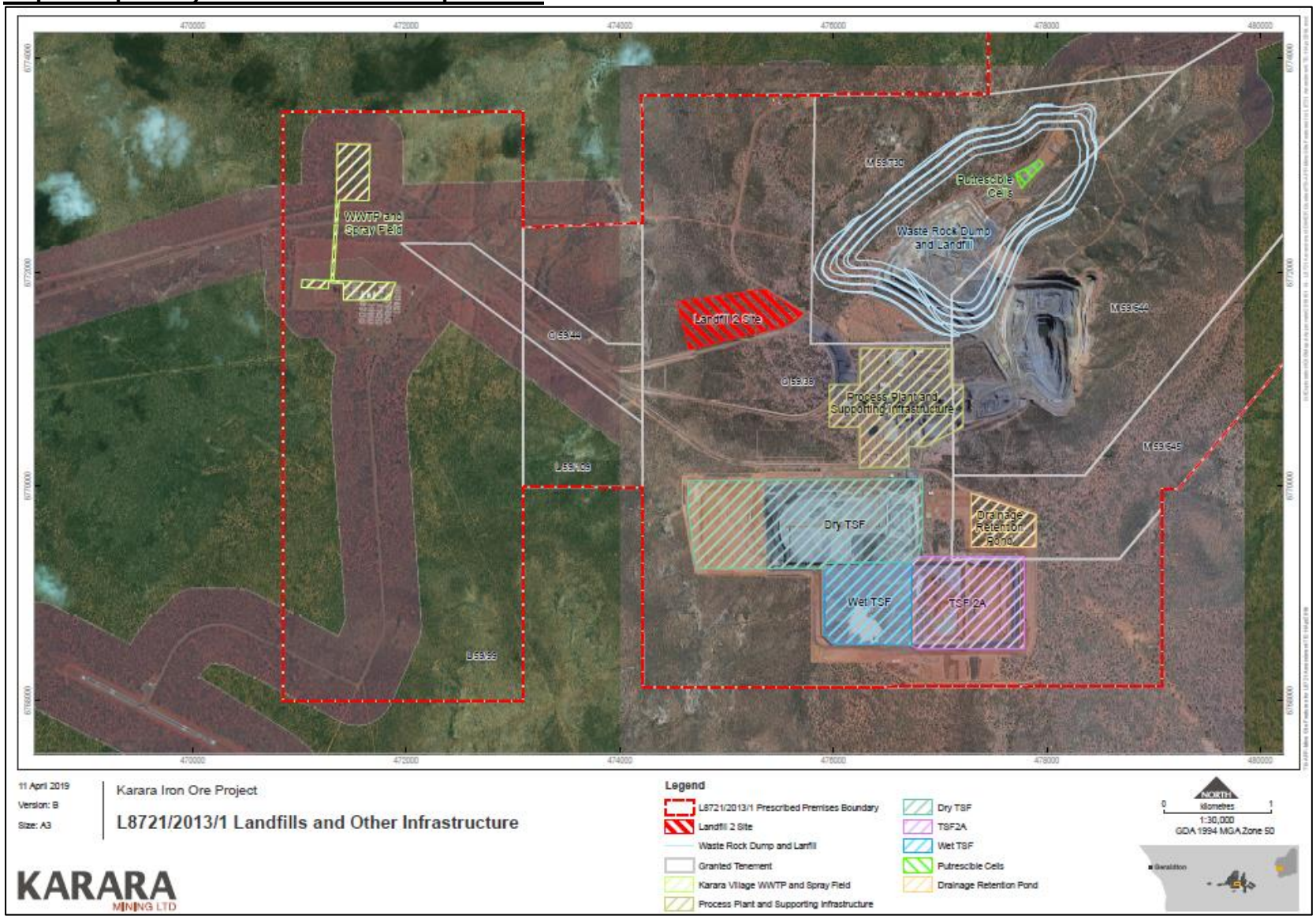
Other waste that meets the acceptance criteria for Class II landfills		• Cell locations where waste is to be buried will be surveyed and the latitude and longitude recorded.
		
		Waste Rock Dump Landfilling area
		• Construction, operation and decommissioning of landfill cells can occur within the defined landfill area providing there is no waste within:
		  ○ 100 m of any surface water body; and
		  ○ 3 m of the highest level of the water table aquifer.
		
		Landfill 2
		• **Construction, operation and decommissioning of landfill cells can occur within the Waste Cell areas shown in Map 11 and providing there is no waste within:**
		  ○ **50 m of any surface water body and drainage line; and**
		  ○ **3 m of the highest level of the water table aquifer;**
		• **Cells/trenches shall be fenced until placement of final cover.**
		• **The tipping area shall be clearly defined to restrict access to one cell only.**
		• **Earthen bunding at least 1 metres high shall be installed around each trench to divert stormwater away from the landfill.**
		• **Water that has come into contact with waste shall be retained on the landfill.**

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

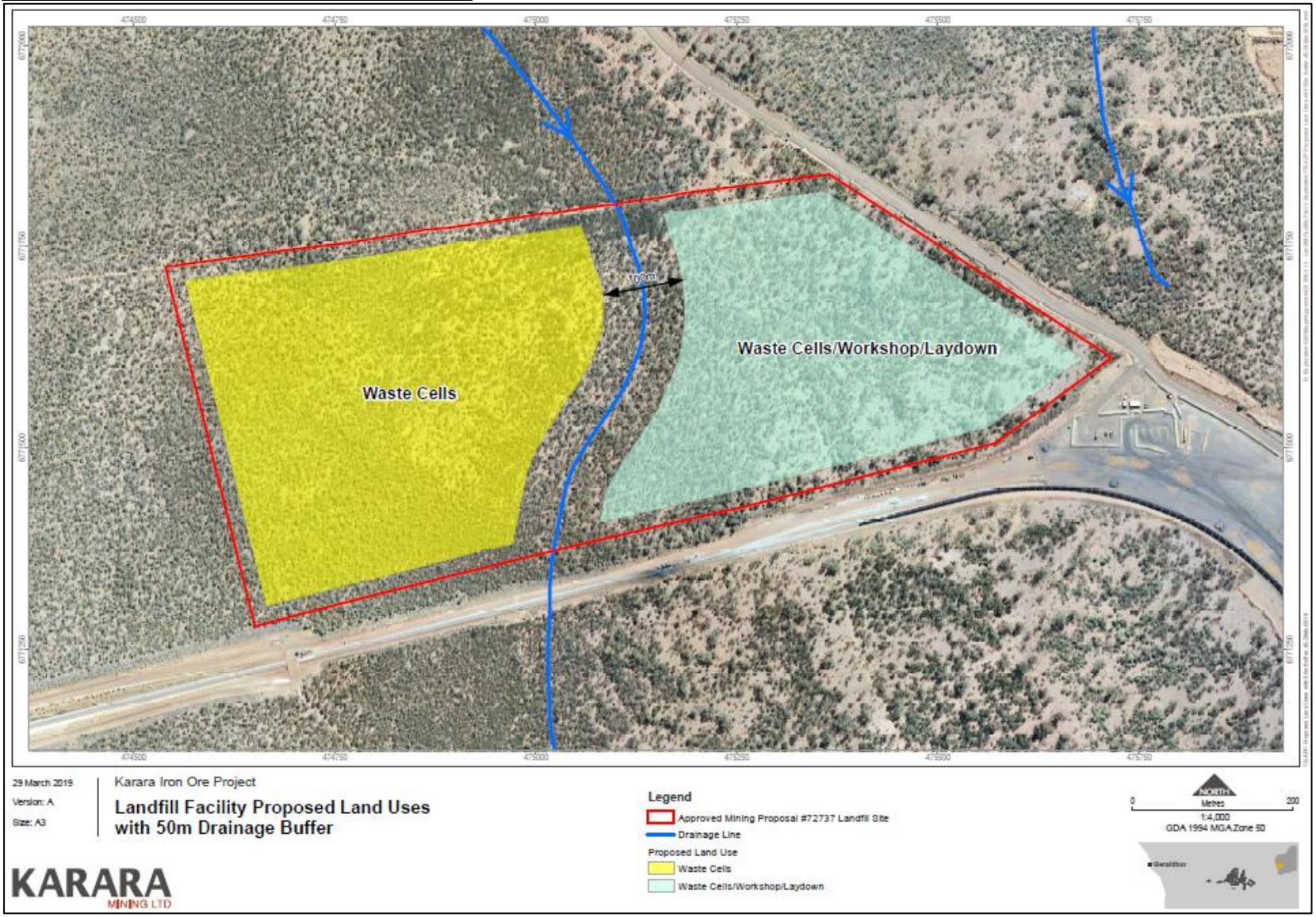
2. The Licence is amended by the deletion of Map 2: *Map of containment structures* in Schedule 1 and the addition of Map 2: *Map of key infrastructure on the premises* as shown in bold underline below

3. The Licence is amended by the addition of Map 11 in Schedule 1 of the Licence as shown in bold underline below:

Map 2: Map of key infrastructure on the premises



Map 11: Landfill 2 - location of waste cell areas



Appendix 1: Key documents

	Document title	In text ref	Availability
1	Application: Application form signed and dated 3 May 2018, and attachment, *Attachment 1: Supporting Document to Licence Amendment Application – Landfill Facility: Area 2,* Karara Mining Limited, 07 May 2018.	Application	DWER records (A1669339)
2	DER, July 2015. *Guidance Statement: Regulatory principles.* Department of Environment Regulation, Perth.	-	accessed at www.dwer.wa.gov.au
3	DER, October 2015. *Guidance Statement: Setting conditions.* Department of Environment Regulation, Perth.	-	
4	DER, November 2016. *Guidance Statement: Environmental Siting.* Department of Environment Regulation, Perth.	-	
5	DER, February 2017. *Guidance Statement: Risk Assessments.* Department of Environment Regulation, Perth.	Guidance Statement: Risk Assessments	
6	DER, February 2017. *Guidance Statement: Decision Making*. Department of Environment Regulation, Perth.	-	
7	Department of Water and Environmental Regulation, April 2018. Landfill Waste Classification and Waste Definitions 1996 (as amended 2018)	Landfill Definitions, 2018	accessed at www.dwer.wa.gov.au
8	Email: Subject*: FW: L8721 amendment for landfill comments - follow up-clarification.* From Trevor Ennis-John, Karara Mining Ltd, 12/04/2019 3:25 PM	Email 12/04/2019	DWER records (A1781401)
9	Karara Mining Limited, 20 December 2016. *Environmental Procedure - Surface Water Management CORP-EN-PRO-1011*	Surface Water MP	DWER records (A1757398)
10	Karara Mining Limited, 13 December 2017. *Environmental Plan – Environmental Waste Management CORP-EN-PLN-1013*	Waste MP	DWER records (A1757397)
11	Licence L8721/2013/1 - Karara Minesite Beneficiation Plant	L8721/2013/1 or 'existing licence'	accessed at www.dwer.wa.gov.au
12	Ministerial Statement 805	MS 805	accessed at www.epa.wa.gov.au/
13	Wave International, 3/04/2017. *KML Mine Site Wet Tailings Storage Facility 2A and 2B Design Report*,	Wave, 2017	DWER records (A1688235)

Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 29 March 2019 for review and comment. The Licence Holder responded on 4 April 2019.

Condition or section	Summary of Licence Holder comment	DWER response
Section – Amendment description	Karara commented that tyres and empty ANFO bags will continue to be disposed of in the Karara waste rock dump landfill area. Karara clarified in email of 12/04/2019 that labelling in the Application's Infrastructure Map was misleading and the area defined as 'Landfill 1' should have been labelled 'Putrescible Cells'. These cells will be covered and the Waste Rock Dump landfill area as located on the existing Licence will remain in operation for burial of tyres. Karara provided a re-labelled and more accurate Infrastructure map.	The amendment has been edited to include the more accurate infrastructure map which shows the location of the putrescible cells within the Waste Rock Dump landfill area which will be covered by waste rock. Background information is also edited accordingly.
Section – Other approvals	Typo detected and noted.	Typo corrected.
Section - Hydrogeology	Karara provided additional information to better clarify depth to groundwater.	The additional information has been included in background information.
Section - 'Location and receptors	Karara commented that in the Section 'Location and receptors' Table 5 there are no surface water bodies listed as being located near either landfill area, and also that Figure 3 Surface water features does not delineate the weakly defined ephemeral drainage line.	Karara has overlooked that the weakly defined ephemeral drainage line is listed in Table 5 as running through the centre of the proposed landfill site, and is identifiable in Figure 3.
Condition 1.3.3	Karara commented that the requirement for 100 m separation of waste to the drainage line would considerably reduce the area available for landfilling at Landfill 2. Karara requested this be reduced to 50 m as being adequate relative to risk and management controls	The *Environmental Protection (Rural Landfill) Regulations* r.9 requires no waste within 100 m of any surface water body at the site. The Delegated Officer has considered the

Condition or section	Summary of Licence Holder comment	DWER response
	and provided an updated Landfill 2 map with the 50 m included. Karara provided additional information there has been no surface water flow observed within the Landfill area 2 since establishment on site in 2010 and flooding within this area is considered a very low to unlikely risk. Flows are from north to south, and some ponding at the rail loop could be expected in the event of a 1 in 100 year rain event.	additional requirements for Landfill 2 required by amendment to condition 1.3.3 (bunding of at least 1 m high to be installed around each trench; the tipping area restricted to one cell only; water that has come into contact with waste to be retained on the landfill, and fencing around cells) and also that water would flow and pond within the rail loop, and agrees that a 50 m buffer from the drainage line is adequate to manage the risk of surface water/stormwater. Condition 1.3.3 is amended so that Landfill 2 waste must not be located within 50 m of any surface water body and drainage line.