



Licence Number	L8721/2013/1
Licence Holder	Karara Mining Limited
ACN	070 871 831
Registered business address	Level 8 London House 216 St Georges Terrace PERTH WA 6000
File Number	2012/008499-1
Date of issue	20/05/2013
Duration	20/05/2013 to 19/05/2021
Amendment date	13/02/2020
Prescribed Premises	Category 5: Processing or beneficiation of metallic or non-metallic ore Category 54: Sewage facility Category 64: Class II or III putrescible landfill site As defined in Schedule 2
Premises	Karara Minesite Beneficiation Plant M59/644, M59/645, G59/38, L59/99 and L59/109 PERENJORI WA 6620

This Licence is granted to the Licence Holder, subject to the following conditions, on 13 February 2020, by:

Alana Kidd

Manager, Resource Industries

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

Introduction	2
Licence conditions	6
1 General	6
2 Emissions	13
3 Monitoring	13
4 Information	15
Schedule 1: Maps	18
Schedule 2: Prescribed Premises Categories	26
Schedule 3: Notification & Forms	27

Introduction

This Introduction is not part of the Licence conditions.

DWER's industry licensing role

The Department of Water and Environmental Regulation (DWER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DWER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DWER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DWER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DWER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements

This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licence Holder the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link: <http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.
- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.

- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.

Licence Holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.

Licence fees

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non-payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions

If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary

The Karara Minesite Beneficiation Plant (the Premises) is located within the Blue Hills Ranges in the Midwest region of Western Australia approximately 80 kilometres (km) east of Morawa. The nearest sensitive land use is the Karara Homestead, approximately 7 km from the premises.

Processing infrastructure includes a crushing plant (primary and secondary crushing), screens, magnetic separation, thickeners and filter plants, wet and dry Tailings Storage Facilities (TSF), and a Wet Concentrate Storage Facility (WCSF).

Primary disposal of tailings from the beneficiation plant was initially designed and operated as a dry-stacked tailings facility using a radial stacker pattern.

Operational constraints restricted the tailings filtration circuit of the processing plant, resulting in limitations in the total volume of dry tails that the plant can produce and subsequently, the total volume of saleable product. To alleviate this constraint, Karara has constructed and operates a wet tailings storage facility within the original dry tails stacking footprint. Wet tailings are considered all material with moisture content greater than 20%, but is commonly at 45% moisture. The wet TSFs are not lined.

The premises also includes a category 54 batch type wastewater treatment plant (WWTP) and a category 64 landfill.

The WWTP is located 480 m west of the Karara Accommodation Village. Treated wastewater is discharged to a spray field 750 m north of the Accommodation Village. The spray field is bordered by native vegetation to the north and west.

The main risk of emissions from the premises is dust, potentially contaminated stormwater, wet tailings TSF overflow and seepage, pipeline spillage, and sewage effluent discharge to land.

Amendment

This amendment was initiated by the CEO to correct an unintentional omission of Table 1.3.4 in the amendment issued on 14 November 2011 (as detailed in Amendment Report #2).

The licences and works approvals issued since 12/02/2010 are:

Instrument log		
Instrument	Issued	Description
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 – WWTP
L8486/2010/1	09/12/2010	Licence – WWTP (this licence was later revoked and the WWTP incorporated in the Premises licence L8721).
L8721/2013/1	16/05/2013	Licence - Karara Minesite Beneficiation Plant
L8721/2013/1	26/09/2013	Amendment - Karara Minesite Beneficiation Plant
W5545/2013/1	20/01/2014	Works Approval – wet tailings TSF1
W5664/2014/1	11/7/2014	Works Approval – wet tailings TSF2 (Stage 1 and Stage 2). The works were not constructed.
L8721/2013/1	12/11/2015	Amendment to incorporate operation of TSF 1 in accordance with Works Approval W5545/2013/1, and surrender of Licence L8486/2010/1 with incorporation of the WWTP within L8721/2013/1.
L8721/2013/1	29/04/2016	Department initiated amendment in accordance with section 59(1)(k) of the <i>Environmental Protection Act 1986</i> to amend the duration of the licence.
L8721/2013/1	30/06/2017	Amendment Notice 1 to: <ul style="list-style-type: none"> • Raise the Wet Tailings Storage Facility (Wet TSF1) downstream embankment from 8 metres (m) to 16 m at its deepest edge (Phase 1). • Extend Wet TSF1 to the south (Phase 2). • Correct the category 5 throughput capacity to 30,000,000 tonnes per annum. • Correct the premises boundary map.
L8721/2013/1	08/01/2018	Amendment Notice 2 for the construction and operation of Tailings Storage Facility (TSF) 2A within the TSF landform footprint.
L8721/2013/1	03/08/2018	Amendment Notice 3 to construct an internal embankment from the central decant to the southern embankment of TSF Stage 2A, dividing the TSF 2A deposition area into Cell 1 and Cell 2.
L8721/2013/1	18/12/2018	Amendment Notice 4 to include a Wet Concentrate Storage Facility (WCSF) and its proposed expansion into the licence.
L8721/2013/1	16/04/2019	Amendment Notice 5 for construction and operation of a new category 64 landfill.
L8721/2013/1	14/11/2019	Amendment to include a category 5 mobile crusher circuit, and remove redundant construction conditions for TSF2 and Wet Concentrate Storage Facility. The amendment included a CEO initiated amalgamation of separately issued licence amendment notices into the one licence.
L8721/2013/1	13/02/2020	CEO initiated amendment to correct an unintentional omission of Table 1.3.4 in the previous amendment.

Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 In the Licence, unless the contrary intention appears.

‘AACR’ means Annual Audit Compliance Report. The AACR proforma is accessible from the DWER website;

‘ACN’ means Australian Company Number;

‘Acceptance Criteria’ has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009), published by the CEO and as amended from time to time;

‘Act’ means the *Environmental Protection Act 1986*;

‘AHD’ means Australian Height Datum;

‘Annual Period’ means the period from 1 July until 30 June in the following year;

‘AS/NZS 5667.1’ means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples*;

‘ARI’ means average recurrence interval;

‘AS/NZS 5667.10’ means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters*;

‘averaging period’ means the time over which a limit or target is measured or a monitoring result is obtained;

‘Beach Freeboard’ is the vertical height between the normal operating pond level plus an allowance for an inflow corresponding to the 1-in-100-year 72-hour ARI rainfall event falling in the catchment of the pond, assuming that no uncontrolled discharge takes place for the duration of the rainfall event, and the point on the beach where the wall freeboard is measured. The beach freeboard may vary significantly during the life of the storage and depends upon beach length, slurry or tailings characteristics and deposition methodology. Beach freeboard is not applicable where the pond is normally located against a perimeter retaining structure;

‘CEO’ means Chief Executive Officer of the Department of Water and Environmental Regulation;

‘CEO’ for the purpose of correspondence means:

Chief Executive Officer
Department Administering the *Environmental Protection Act 1986*
Locked Bag 10
JOONDALUP DC WA 6027
Telephone: (08) 6367 7000
Facsimile: (08) 6367 7001
Email: info@dwer.wa.gov.au

'cfu/100mL' means coliform forming units per 100millilitres;

'clean fill' has the meaning defined in the 'Landfill Waste Classification and Waste Definitions';

'Dry Tailings' means tailings which are $\leq 20\%$ moisture content;

'DWER' means Department of Water and Environmental Regulation;

'freeboard' means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point;

'HDPE' means high density polyethylene;

'Inert Waste Type 1' has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009), published by the CEO and as amended from time to time;

'Inert Waste Type 2' has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009), published by the CEO and as amended from time to time;

'Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009)' means the document entitled "Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009), published by the Chief Executive Officer and as amended from time to time;

'Licence' means this Licence numbered L8721/2013/1 and issued under the Act;

'Licence Holder' means the person or organisation named as Licence Holder on page 1 of the Licence;

'm³' means cubic metres;

'mbgl' means metres below ground level;

'mg/L' means milligram per litres;

'mm' means millimetre;

'NATA' means the National Association of Testing Authorities, Australia;

'NATA accredited' means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

'Operational Freeboard' is the vertical height between the lowest elevation of the perimeter retaining structure and the tailings beach immediately inside the retaining structure. The operational freeboard varies over the course of a deposition cycle as the storage is raised and fills with tailings. The operational freeboard becomes critically important at the end of a deposition cycle, particularly to minimise the potential for back flow and overtopping as a result of mounding of tailings at discharge points;

'Putrescible' has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009), published by the CEO and as amended from time to time;

‘Premises’ means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

‘Schedule 1’ means Schedule 1 of this Licence unless otherwise stated;

‘Schedule 2’ means Schedule 2 of this Licence unless otherwise stated;

‘Schedule 3’ means Schedule 3 of this Licence unless otherwise stated;

‘spot sample’ means a discrete sample representative at the time and place at which the sample is taken;

‘TDS’ means total dissolved solids;

‘tipping area’ means the area of the landfill in which waste other than cover material is being deposited;

‘total freeboard’ is the vertical height between the lowest point on the crest of the perimeter retaining structure of the TSF and the normal operating pond level plus an allowance for an inflow corresponding to the 1-in-100-year 72-hour ARI rainfall event falling in the catchment of the pond, assuming that no decant recovery takes place for the duration of the rainfall event. In effect total freeboard is the Operational Freeboard + Beach Freeboard = 500mm with a subminimum of 300mm Operational Freeboard;

‘TSF’ means tailing storage facility;

‘TSF Landform’ means the combination of the areas shaded as ‘Dry TSF’, ‘TSF1’ and ‘TSF2’ in Map 2 of Schedule 1, as one feature;

‘UDR’ means Environmental Protection (Unauthorised Discharge) Regulations 2004 (WA);

‘WCSF’ means Wet Concentrate Storage Facility; and

‘Wet tailings’ means tailings with moisture content more than 20%.

- 1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.
- 1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.
- 1.1.5 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:
 - (a) pollution;
 - (b) unreasonable emission;
 - (c) discharge of waste in circumstances likely to cause pollution; or
 - (d) being contrary to any written law.

1.2 General conditions

- 1.2.1 The Licence Holder shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.
- 1.2.2 The Licence Holder shall immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system.
- 1.2.3 The Licence Holder shall ensure that surface drainage water is managed so that potentially contaminated water from the Process Plant and TSF landform is directed to the Drainage Retention Area, as depicted in Schedule 1: Map 5 and Map 6.

1.3 Premises operation

- 1.3.1 The Licence Holder shall ensure that materials listed in Table 1.3.1 are only discharged into containment structures with the relevant infrastructure requirements and at the location specified in Table 1.3.1 and identified in Schedule 1.

Table 1.3.1: Containment infrastructure		
Containment structure	Material	Infrastructure requirements
TSF landform	Dry tailings (\leq 20% moisture content)	Only deposited within areas shaded as 'Dry TSF', as depicted and located in Schedule 1, Map 2.
	Wet tailings ($>$ 20% moisture content)	Only deposited in TSF2A, as located in Schedule 1, Map 2.
	Stormwater	All surface water run-off from the TSF landform (including outer embankments of TSF1 and TSF 2A) is directed to the Drainage Retention Area as located in Schedule 1, Map 2.
TSF2A	Tailings	<p>Located as shown in Schedule 1, Map 2 and Map 6.</p> <p>Seepage collected by toe drains and directed to the Seepage Collection Sump.</p> <p>A decant tower and pump maintained so that decant water is able to be pumped to the process plant via return pipeline.</p> <p>Spigots, for subaerial deposition of tailings, positioned and rotated around the embankment perimeter in order to maintain even beaching of tailings.</p> <p>Piezometers maintained in each embankment wall in accordance to design and construction reports.</p> <p>Minimum total freeboard of 500 mm maintained.</p>
Seepage Collection Sump	Seepage from the TSF	<p>Located as shown in Schedule 1: Map 6.</p> <p>Maintained so that water collected in the Seepage Collection Sump may be returned to the process plant or TSF2A or reused as dust suppression.</p>

Table 1.3.1: Containment infrastructure		
Containment structure	Material	Infrastructure requirements
		Minimum freeboard of 300 mm maintained.
Drainage Retention Area	Potentially contaminated surface water and drainage water.	<p>Located as depicted in Schedule 1, Map 2.</p> <p>Constructed and maintained to accommodate stormwater flows from a 1 in 100 year, 72 hour ARI rainfall event.</p> <p>Surface Water Drainage directed to the Drainage Retention Area as shown in Schedule 1: Map 5.</p> <p>Water from the Drainage Retention Area reused in the processing plant or for dust suppression.</p>
Wet Concentrate Storage Facility	Wet concentrate	<p>Located within the Process Plant Area depicted in Schedule 1: Map 2.</p> <p>Maintained so that seepage collected by the underdrainage piping network and sump is captured for re-use.</p> <p>Minimum freeboard of 300 mm maintained.</p>
Tailings pipelines	Tailing slurry	<p>250 mm diameter HDPE.</p> <p>Tailings delivery and return water pipelines and pumps banded by earthen trenches.</p> <p>Spillage directed to the Drainage Retention Area, or retained with the Process Plant and associated infrastructure.</p>
Return water lines	Return water from TSF2A	

1.3.2 The Licence Holder shall:

- (a) undertake inspections as detailed in Table 1.3.2;
- (b) where any inspection identifies that an appropriate level of environmental protection is not being maintained, take corrective action to mitigate adverse environmental consequences as soon as practicable; and
- (c) maintain a record of all inspections undertaken.

Table 1.3.2: Inspection of infrastructure		
Scope of inspection	Type of inspection	Frequency of inspection
Tailings pipelines	Visual integrity	Daily
Return water lines	Visual integrity	Daily
TSF2A embankments	Visual to confirm no unusual changes and required-freeboard capacity is available	Daily
Drainage Retention Area	Visual to confirm able to accommodate stormwater flows from a 1 in 100 year, 72 hour ARI rainfall event.	Daily
Wet Concentrate Storage Facility	Visual to confirm at least 300 mm freeboard capacity	Daily

- 1.3.3 The Licence Holder 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	<ul style="list-style-type: none"> No more than 540 m³ per day. Sludge drying beds on a bunded hardstand and disposal of dry sludge to the premises landfill.
Clean Fill	Receipt, handling and disposal of waste by landfilling	<p><u>All landfills and waste types</u></p> <ul style="list-style-type: none"> 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 landfilling areas shown on Map 2, and Map 7 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. Cell locations where waste is to be buried will be surveyed and the latitude and longitude recorded. <p><u>Waste Rock Dump Landfilling area</u></p> <ul style="list-style-type: none"> Construction, operation and decommissioning of landfill cells can occur within the defined landfill area providing there is no waste within: <ul style="list-style-type: none"> 100 m of any surface water body; and 3 m of the highest level of the water table aquifer. <p><u>Landfill 2</u></p> <ul style="list-style-type: none"> Construction, operation and decommissioning of landfill cells can occur within the Waste Cell areas shown in Map 7 of Schedule 1 and providing there is no waste within: <ul style="list-style-type: none"> 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 m 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.
Inert Waste Type 1 and 2 ¹		
Putrescible Waste		
Other waste that meets the acceptance criteria for Class II landfills		

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

- 1.3.4 The Licence Holder shall ensure that cover is applied to waste in accordance with Table 1.3.4 and that sufficient stockpiles of cover are maintained on site at all times.

Table 1.3.4: Cover requirements ¹			
Waste Type	Material	Depth	Timescales
Putrescible waste	Inert and incombustible material	300mm	At least weekly.
All waste		1000mm	Within 3 months of achieving final waste contours.
Inert Waste Type 2 (Tyres)	Soil	500mm	As soon as practical following the achievement of final waste levels in the area(s) where tyres are disposed of.

Note 1: Additional requirements for the covering of tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

- 1.3.5 The Licence Holder shall take all reasonable and practical measures to ensure that no windblown waste escapes from the landfill area and that windblown waste is collected on at least a monthly basis and returned to the active tipping area.
- 1.3.6 The Licence Holder shall ensure the limits specified in Table 1.3.5 are not exceeded.

Table 1.3.5: Production or design capacity limits		
Category	Category description	Premises production or design capacity limit
5	Processing or beneficiation of metallic or non-metallic ore	30,000,000 tonnes per year
54	Sewage facility	540 cubic metres per day
64	Class II putrescible landfill site	5,000 tonnes per year

- 1.3.7 The Licence Holder shall ensure that the requirements as detailed in Table 1.3.6 are met during installation of the Mobile Crusher infrastructure.

Table 1.3.6: Construction requirements		
Location	Requirements	Location and construction details reference map
Mobile Crusher and crushing circuit	Mobile crusher and crushing circuit comprising, jaw crushers, cone crushers, scalping screens, screens and conveyors between crushers and screens.	Schedule 1: Map 2 (within area marked as Process Plant), and Map 8.
	Circuit capable of crushing approximately 450 tonnes per hour (tph) of magnetite ore to <50 mm specification.	
	Water spray nozzles on the crushing plant, focused primarily on the jaw and cone crushers, and in constant operation when the mobile crusher is in use.	
	Conveyors fitted with spray nozzles at locations to reduce dust emissions as far as practicable.	

- 1.3.8 The Licence Holder must not depart from the requirements specified in Table 1.3.6 except where:
- (a) such a departure does not increase risks to public health, public amenity or the environment; and
 - (b) all other conditions in this licence are still satisfied.

2 Emissions

2.1 General

- 2.1.1 The Licence Holder shall record and investigate the exceedance of any descriptive or numerical limit specified in any part of section 2 of this Licence.

2.2 Emissions to land

- 2.2.1 The Licence Holder shall ensure that where waste is emitted to land from the emission points in Table 2.2.1 and identified on the map of emission points in Schedule 1, Map 3 it is done so in accordance with the conditions of this Licence.

Table 2.2.1: Emission to land		
Emission point [location on Schedule 1: Map 3]	Description	Source including abatement
Spray field	Discharge of wastewater to a 16 ha spray field area	Treated wastewater from the Waste Water Treatment Plant

3 Monitoring

3.1 General monitoring

- 3.1.1 The Licence Holder shall ensure that:
- (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
 - (b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
 - (c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11; and
 - (d) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured [unless indicated otherwise in the relevant table].
- 3.1.2 The Licence Holder shall ensure that:
- (a) monthly monitoring is undertaken at least 15 days apart;
 - (b) quarterly monitoring is undertaken at least 45 days apart;
 - (c) six monthly monitoring is undertaken at least 5 months apart; and
 - (d) annual monitoring is undertaken at least 9 months apart.
- 3.1.3 The Licence Holder shall ensure that all monitoring equipment used on the Premises comply with the conditions of this Licence and is calibrated in accordance with the manufacturer's specifications.
- 3.1.4 The Licence Holder shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

3.2 Monitoring of emissions to land

- 3.2.1 The Licence Holder shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

Table 3.2.1: Monitoring of emissions to land				
Emission point reference [as shown on Map 4 of Schedule 1]	Parameter	Units	Reference Period	Frequency
M2	pH ¹	Non specified	Spot sample	Quarterly
	5-day biochemical oxygen demand	mg/L		
	Disinfection - chlorine residual ¹			
	total dissolved solids			
	total nitrogen as N			
	total phosphorus as P			
	<i>Escherichia coli</i>	cfu/100 mL		

Note 1: In-field non-NATA accredited analysis permitted.

3.3 Monitoring of inputs and outputs

- 3.3.1 The Licence Holder shall undertake the monitoring in Table 3.3.1 according to the specifications in that table.

Table 3.3.1: Monitoring of inputs and outputs					
Input/Output	Monitoring point reference [Schedule 1: Map 4]	Parameter	Units	Averaging period	Frequency
Treated wastewater discharged to the sprayfield	Magflow metre (M1)	Volumetric flow rate (cumulative)	m ³ /day	Monthly	Continuous

3.4 Ambient environmental quality monitoring

3.4.1 The Licence Holder shall undertake the monitoring in Table 3.4.1 according to the specifications in that table.

Table 3.4.1 Monitoring of ambient groundwater quality				
Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
TSF-MB1-2018 (MB1) TSF-MB2-2018 (MB2) TSF-MB3-2018 (MB3)	pH ¹	-	Spot sample	Monthly
	Electrical conductivity ¹	µS/cm		
	Standing water level ¹	mbgl		
	Total Dissolved Solids ¹	mg/L		
TSF-MB4-2018 (MB4)	pH	-	Spot sample	Six monthly
	Electrical Conductivity (EC)	µS/cm		
Located on Schedule 1: Map 6	Total Dissolved Solids, turbidity, Hydroxide OH ⁻ as CaCO ₃ , Total Alkalinity, and Fluoride Perchlorate (ClO ₄) ⁻	m/L		
	Major ions Calcium, Magnesium, Sodium, Potassium, Chloride, Sulphate, Carbonate, Bicarbonate HCO ₃ , Nutrients - Nitrate, Nitrite, Ammonia, Reactive Phosphorus, Total Phosphorus, and Total Nitrogen. Heavy metals (Dissolved and total) Arsenic, Aluminium, Beryllium, Boron, Cadmium, Cobalt, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium, Thallium, Vanadium and Zinc.			

Note 1: In-field non-NATA accredited analysis.

4 Information

4.1 Records

- 4.1.1 All information and records required by the Licence shall:
- (a) be legible;
 - (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;

- (c) except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
- (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or waters.

4.1.2 The Licence Holder shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.

4.1.3 The Licence Holder shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

4.2 Reporting

4.2.1 The Licence Holder shall submit to the CEO an Annual Environmental Report within 28 calendar days after the end of the annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or form ¹
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken.	None specified
-	Comparison of the approved production and design capacities and actual production/throughput for the Annual Period	
Table 3.2.1	Monitoring of emissions to land	
Table 3.3.1	Monitoring of inputs and outputs	
Table 3.4.1	Groundwater monitoring	To include graphical and historical representation in addition to raw data
4.1.2	Annual Audit Compliance Report	Downloadable form at www.dwer.wa.gov.au
4.1.3	Complaints summary	None specified
N/A	An assessment of monitoring results collected within the Annual Period against previous monitoring results and any limits specified in this Licence.	None specified

Note 1: Forms are in Schedule 2

- 4.2.2 The Licence Holder shall submit the information in Table 4.2.2 to the CEO according to the specifications in that table.

Table 4.2.2: Non-annual reporting requirements				
Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form ¹
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties

4.3 Notification

- 4.3.1 The Licence Holder shall ensure that the parameters listed in Table 4.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 4.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement ¹	Format or form ²
2.1.1	Breach of any limit specified in the Licence.	Part A: As soon as practicable or within 72 hours after the detection of any incident which has caused, is causing or may cause pollution, has occurred. Part B: As soon as practicable.	N1
-	Production ceasing for an unspecified period of time (excluding maintenance and shutdowns)	As soon as practicable after the decision has been made.	None Specified
-	Production recommencing	At least 28 days prior to production recommencing.	None specified

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act.

Note 2: Forms are in Schedule 3

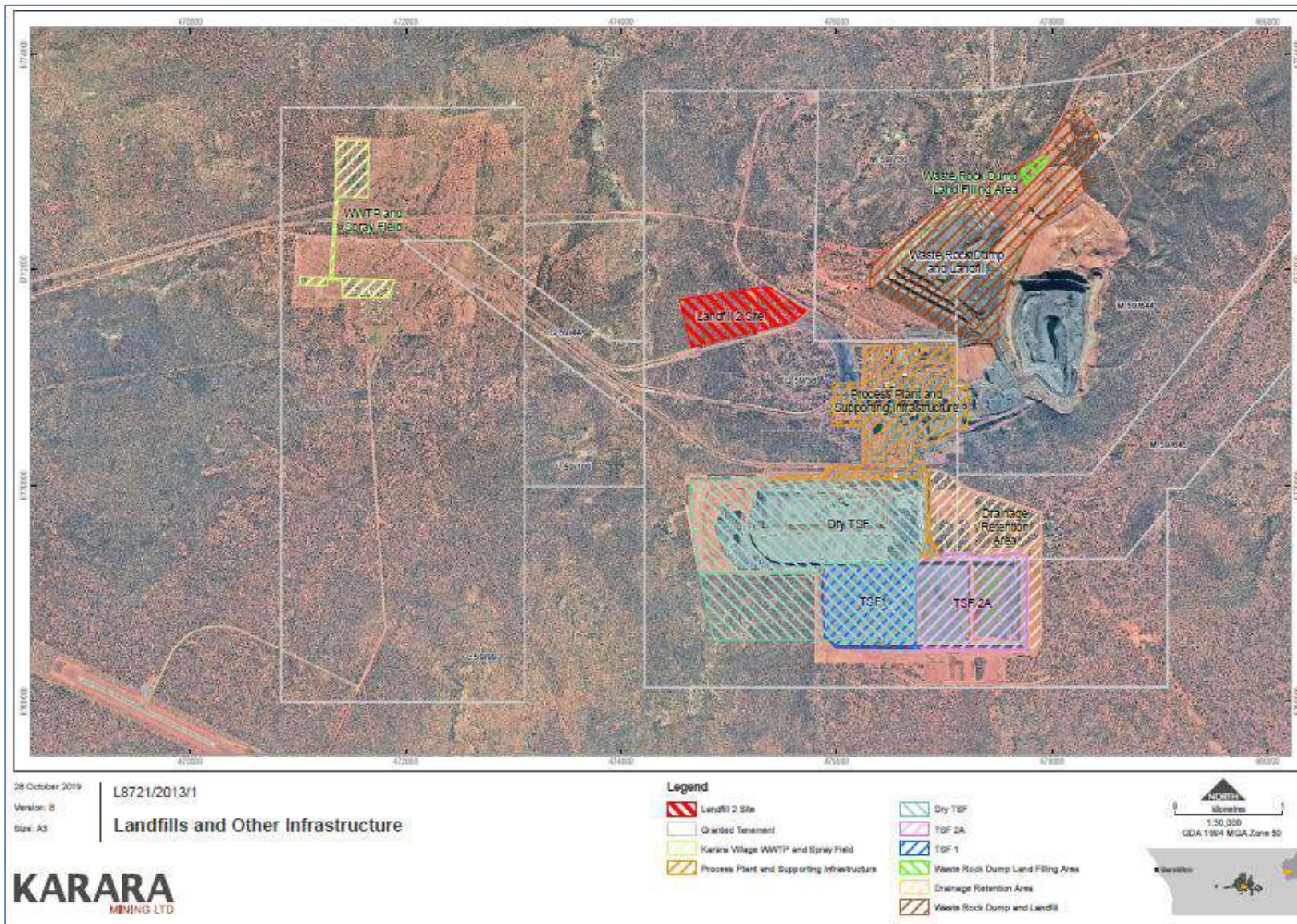
- 4.3.2 The Licence Holder must within 30 calendar days of the Mobile Crusher infrastructure required by condition 1.3.7 being constructed:
- (a) undertake an audit of their compliance with the requirements of condition 1.3.7; and
 - (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.
- 4.3.3 The Licence Holder must ensure that construction compliance documents required by Condition 4.3.2:
- (a) is certified by a suitably qualified professional engineer stating infrastructure specified in Table 1.3.6 has been constructed or completed in accordance with each line of Table 1.3.6 of the Licence;
 - (b) be signed by a person authorised to represent the Licensee and contain the printed name and position of that person within the company.
- 4.3.4 The Licence Holder may operate the Mobile Crusher following submission of the construction compliance documents required by Condition 4.3.2.

Map 1: Premises map

The Premises is shown in the map below. The red line depicts the Premises boundary.



Map 2: Map of key infrastructure on the premises



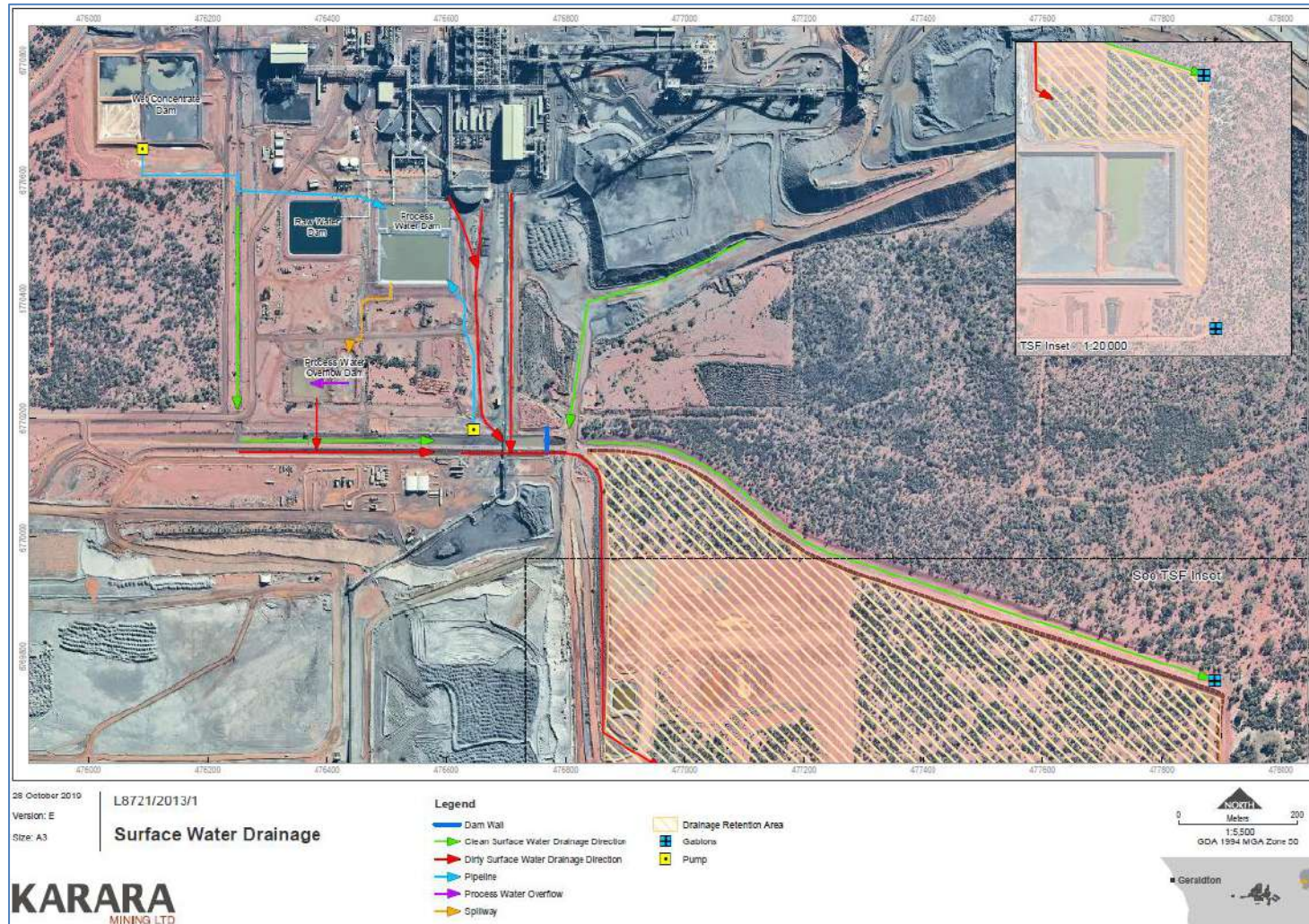
Map 3: Map of emission point - Spray field



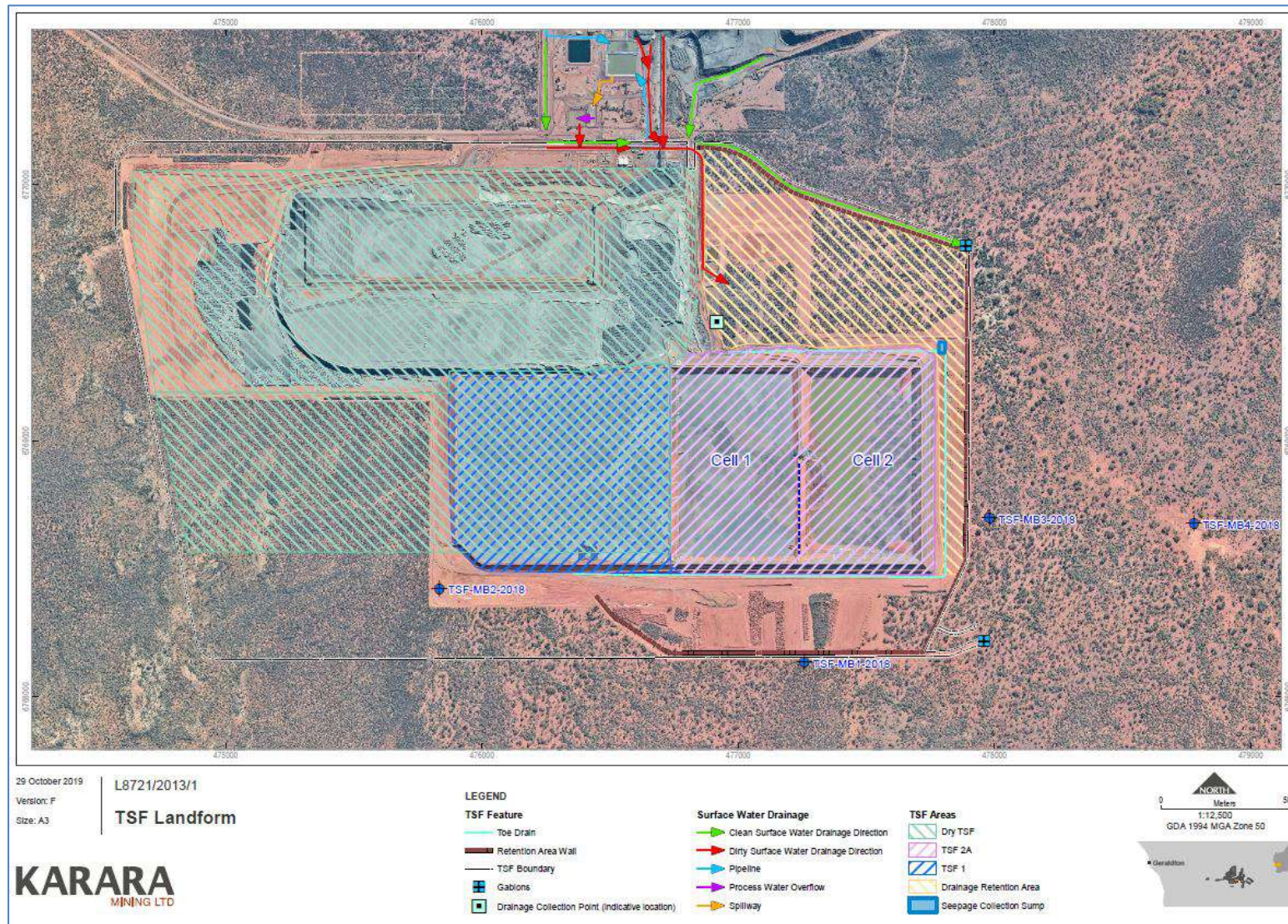
The schematic diagram illustrates the wastewater treatment process flow. Key components include:

- Anoxic Tanks:** ANOXIC TANK 1 (48 KL TO TIL) and ANOXIC TANK 2 (45 KL TO TIL). They receive influent from the selector tank and have recirculation lines with pumps (ANOXIC MIXER PUMP 1.0W, 12.0W, 15.0W, 16.0W, 17.0W, 18.0W, 19.0W, 20.0W, 21.0W, 22.0W, 23.0W, 24.0W, 25.0W, 26.0W, 27.0W, 28.0W, 29.0W, 30.0W, 31.0W, 32.0W, 33.0W, 34.0W, 35.0W, 36.0W, 37.0W, 38.0W, 39.0W, 40.0W, 41.0W, 42.0W, 43.0W, 44.0W, 45.0W, 46.0W, 47.0W, 48.0W, 49.0W, 50.0W, 51.0W, 52.0W, 53.0W, 54.0W, 55.0W, 56.0W, 57.0W, 58.0W, 59.0W, 60.0W, 61.0W, 62.0W, 63.0W, 64.0W, 65.0W, 66.0W, 67.0W, 68.0W, 69.0W, 70.0W, 71.0W, 72.0W, 73.0W, 74.0W, 75.0W, 76.0W, 77.0W, 78.0W, 79.0W, 80.0W, 81.0W, 82.0W, 83.0W, 84.0W, 85.0W, 86.0W, 87.0W, 88.0W, 89.0W, 90.0W, 91.0W, 92.0W, 93.0W, 94.0W, 95.0W, 96.0W, 97.0W, 98.0W, 99.0W, 100.0W).
- Aeration/Decant (A/D) Tank:** AERATION/DECANT (A/D) TANK - 280 KL TO TIL. It receives effluent from the anoxic tanks and has a recirculation line with a pump (AERATION/DECANT PUMP 1.0W, 12.0W, 15.0W, 16.0W, 17.0W, 18.0W, 19.0W, 20.0W, 21.0W, 22.0W, 23.0W, 24.0W, 25.0W, 26.0W, 27.0W, 28.0W, 29.0W, 30.0W, 31.0W, 32.0W, 33.0W, 34.0W, 35.0W, 36.0W, 37.0W, 38.0W, 39.0W, 40.0W, 41.0W, 42.0W, 43.0W, 44.0W, 45.0W, 46.0W, 47.0W, 48.0W, 49.0W, 50.0W, 51.0W, 52.0W, 53.0W, 54.0W, 55.0W, 56.0W, 57.0W, 58.0W, 59.0W, 60.0W, 61.0W, 62.0W, 63.0W, 64.0W, 65.0W, 66.0W, 67.0W, 68.0W, 69.0W, 70.0W, 71.0W, 72.0W, 73.0W, 74.0W, 75.0W, 76.0W, 77.0W, 78.0W, 79.0W, 80.0W, 81.0W, 82.0W, 83.0W, 84.0W, 85.0W, 86.0W, 87.0W, 88.0W, 89.0W, 90.0W, 91.0W, 92.0W, 93.0W, 94.0W, 95.0W, 96.0W, 97.0W, 98.0W, 99.0W, 100.0W).
- Effluent Tanks:** EFFLUENT TANK 1 (43KL TO TIL) and EFFLUENT TANK 2 (43KL TO TIL). They receive effluent from the A/D tank and have recirculation lines with pumps (EFFLUENT MIXER PUMP 1.0W, 12.0W, 15.0W, 16.0W, 17.0W, 18.0W, 19.0W, 20.0W, 21.0W, 22.0W, 23.0W, 24.0W, 25.0W, 26.0W, 27.0W, 28.0W, 29.0W, 30.0W, 31.0W, 32.0W, 33.0W, 34.0W, 35.0W, 36.0W, 37.0W, 38.0W, 39.0W, 40.0W, 41.0W, 42.0W, 43.0W, 44.0W, 45.0W, 46.0W, 47.0W, 48.0W, 49.0W, 50.0W, 51.0W, 52.0W, 53.0W, 54.0W, 55.0W, 56.0W, 57.0W, 58.0W, 59.0W, 60.0W, 61.0W, 62.0W, 63.0W, 64.0W, 65.0W, 66.0W, 67.0W, 68.0W, 69.0W, 70.0W, 71.0W, 72.0W, 73.0W, 74.0W, 75.0W, 76.0W, 77.0W, 78.0W, 79.0W, 80.0W, 81.0W, 82.0W, 83.0W, 84.0W, 85.0W, 86.0W, 87.0W, 88.0W, 89.0W, 90.0W, 91.0W, 92.0W, 93.0W, 94.0W, 95.0W, 96.0W, 97.0W, 98.0W, 99.0W, 100.0W).
- Instrumentation:** Includes various pumps, valves, and sensors. Key instrumentation includes:
 - Pumps:** PUMP 1.0W, 12.0W, 15.0W, 16.0W, 17.0W, 18.0W, 19.0W, 20.0W, 21.0W, 22.0W, 23.0W, 24.0W, 25.0W, 26.0W, 27.0W, 28.0W, 29.0W, 30.0W, 31.0W, 32.0W, 33.0W, 34.0W, 35.0W, 36.0W, 37.0W, 38.0W, 39.0W, 40.0W, 41.0W, 42.0W, 43.0W, 44.0W, 45.0W, 46.0W, 47.0W, 48.0W, 49.0W, 50.0W, 51.0W, 52.0W, 53.0W, 54.0W, 55.0W, 56.0W, 57.0W, 58.0W, 59.0W, 60.0W, 61.0W, 62.0W, 63.0W, 64.0W, 65.0W, 66.0W, 67.0W, 68.0W, 69.0W, 70.0W, 71.0W, 72.0W, 73.0W, 74.0W, 75.0W, 76.0W, 77.0W, 78.0W, 79.0W, 80.0W, 81.0W, 82.0W, 83.0W, 84.0W, 85.0W, 86.0W, 87.0W, 88.0W, 89.0W, 90.0W, 91.0W, 92.0W, 93.0W, 94.0W, 95.0W, 96.0W, 97.0W, 98.0W, 99.0W, 100.0W.
 - Valves:** VALVE 1.0W, 12.0W, 15.0W, 16.0W, 17.0W, 18.0W, 19.0W, 20.0W, 21.0W, 22.0W, 23.0W, 24.0W, 25.0W, 26.0W, 27.0W, 28.0W, 29.0W, 30.0W, 31.0W, 32.0W, 33.0W, 34.0W, 35.0W, 36.0W, 37.0W, 38.0W, 39.0W, 40.0W, 41.0W, 42.0W, 43.0W, 44.0W, 45.0W, 46.0W, 47.0W, 48.0W, 49.0W, 50.0W, 51.0W, 52.0W, 53.0W, 54.0W, 55.0W, 56.0W, 57.0W, 58.0W, 59.0W, 60.0W, 61.0W, 62.0W, 63.0W, 64.0W, 65.0W, 66.0W, 67.0W, 68.0W, 69.0W, 70.0W, 71.0W, 72.0W, 73.0W, 74.0W, 75.0W, 76.0W, 77.0W, 78.0W, 79.0W, 80.0W, 81.0W, 82.0W, 83.0W, 84.0W, 85.0W, 86.0W, 87.0W, 88.0W, 89.0W, 90.0W, 91.0W, 92.0W, 93.0W, 94.0W, 95.0W, 96.0W, 97.0W, 98.0W, 99.0W, 100.0W.
 - Sensors:** SENSOR 1.0W, 12.0W, 15.0W, 16.0W, 17.0W, 18.0W, 19.0W, 20.0W, 21.0W, 22.0W, 23.0W, 24.0W, 25.0W, 26.0W, 27.0W, 28.0W, 29.0W, 30.0W, 31.0W, 32.0W, 33.0W, 34.0W, 35.0W, 36.0W, 37.0W, 38.0W, 39.0W, 40.0W, 41.0W, 42.0W, 43.0W, 44.0W, 45.0W, 46.0W, 47.0W, 48.0W, 49.0W, 50.0W, 51.0W, 52.0W, 53.0W, 54.0W, 55.0W, 56.0W, 57.0W, 58.0W, 59.0W, 60.0W, 61.0W, 62.0W, 63.0W, 64.0W, 65.0W, 66.0W, 67.0W, 68.0W, 69.0W, 70.0W, 71.0W, 72.0W, 73.0W, 74.0W, 75.0W, 76.0W, 77.0W, 78.0W, 79.0W, 80.0W, 81.0W, 82.0W, 83.0W, 84.0W, 85.0W, 86.0W, 87.0W, 88.0W, 89.0W, 90.0W, 91.0W, 92.0W, 93.0W, 94.0W, 95.0W, 96.0W, 97.0W, 98.0W, 99.0W, 100.0W.

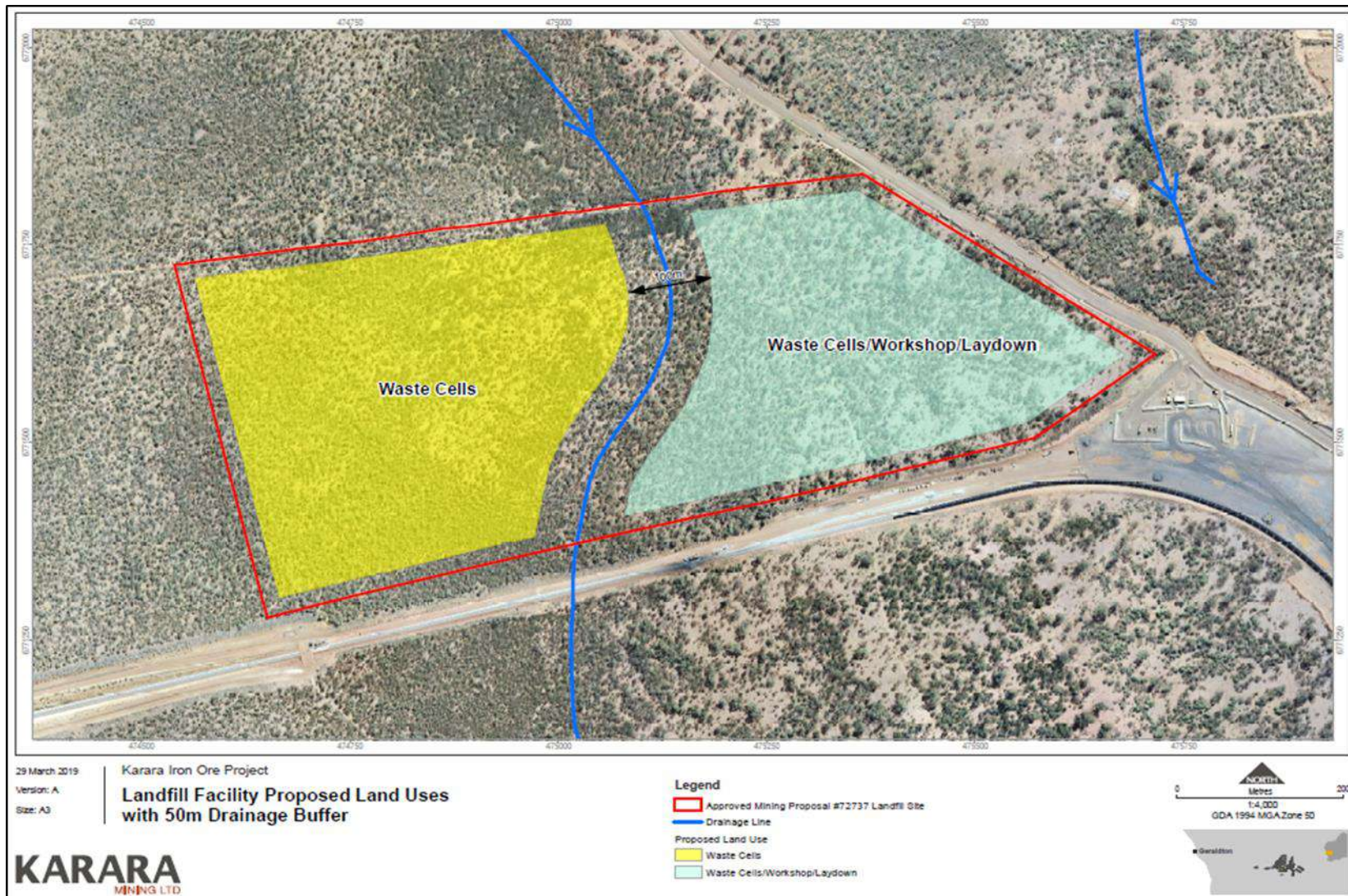
Map 5: Surface Water Drainage



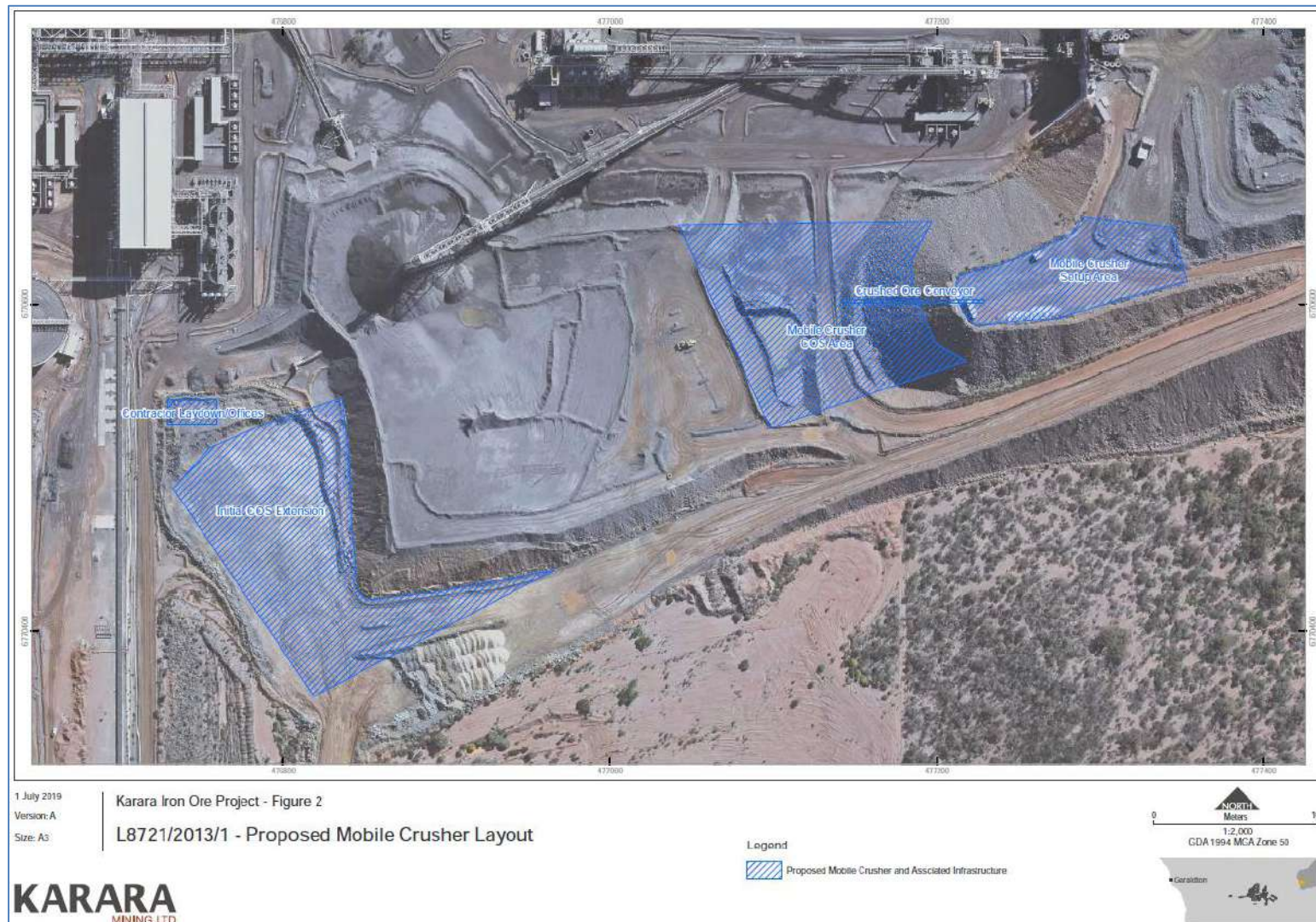
Map 6: TSF2A layout, drainage and seepage collection sump, and monitoring bore locations



Map 7: Landfill 2 - location of waste cell areas



Map 8: Indicative location of the mobile crusher infrastructure



Schedule 2: Prescribed Premises Categories

The Premises prescribed categories under schedule 1 of *Environmental Protection Regulation 1987*

Prescribed Premises categories

Category number	Category Description	Category production or design capacity	Approved Premises production or design capacity
05	Processing or beneficiation of metallic or non-metallic ore	50 000 tonnes per year	Not more than 30,000,000 tonnes per year
54	Sewage facility	100 cubic metres or more per day	540 cubic metres per day
64	<i>Class II putrescible landfill site</i>	20 tonnes or more per year	Not more than 5,000 tonnes per year

Schedule 3: Notification & Forms

Form: N1

Licence: L8721/2013/1
Form: N1

Licence Holder: Karara Mining Limited
Date of breach:

Notification of detection of the breach of a limit.

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence Number	
Name of operator	
Location of Premises	
Time and date of the detection	

Notification requirements for the breach of a limit	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the Premises in the preceding 24 months.	

Name	
Post	
Signature on behalf of Karara Mining Limited	
Date	