Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6543/2021/1
Works approval holder	Paulsens East Iron Ore Pty Ltd
ACN	643 291 230
Registered business address	Unit 9, 36 Ord Street WEST PERTH WA 6005
DWER file number	DER2021/000107
Duration	07/08/2021 to 06/08/2026
Date of issue	06/08/2021
Date of amendment	05/08/2025
Premises details	Paulsens East Iron Ore Project Nanutarra-Munjina Road NANUTARRA WA 6751 Legal description - Mining Tenements M47/1583 and L47/938 As defined by the Premises Map in Schedule 1 and coordinates in Schedule 2

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	Assessed production / design capacity
Category 5: Processing or beneficiation of metallic or non-metallic ore	2,000,000 tonnes per annual period
Category 64: Class II putrescible landfill site	150 tonnes per annual period
Category 85: Sewage facility	20 cubic metres per day

This works approval is granted to the works approval holder, subject to the attached conditions, on 05 August 2025, by:

Jarrod Abrahams

Digitally signed by Jarrod Abrahams
Date: 2025.08.05 11:50:22 +08'00'

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

Works approval history

Date	Reference number	Summary of changes
06/08/2021	W6543/2021/1	Works Approval granted.
02/08/2024	W6543/2021/1	Amendment of the Works Approval expiry date from 06/08/2024 to 06/08/2025
05/08/2025	W6543/2021/1	Amendment to extend the expiry date from 06/08/2025 to 06/08/2026

Interpretation

In this works approval:

(a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice in this works approval:

  (i) if dated, refers to that particular version; and

  (ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

Works approval conditions

The works approval holder must ensure that the following conditions are complied with:

Construction phase

Infrastructure and equipment

1. The works approval holder must:

(a) construct and/or install the infrastructure and/or equipment;

(b) in accordance with the corresponding design and construction / installation requirements; and

(c) at the corresponding infrastructure location; and

(d) within the corresponding timeframe,

as set out in Table 1.

Table 1: Design and construction / installation requirements

	Infrastructure	Design and construction / installation requirements	Infrastructure location	Timeframe
1.	Semi-mobile crushing facility	General components • Compacted earthen pad; • ROM bin; • Primary crusher; • Secondary crusher; • Screening circuit; and • Two elevated radial stackers (fines and lump); Dust controls • Skirting seals and dust box covers on conveyor loading points; • Head chutes on conveyor belt head pulleys; and • Misting sprays fitted on: ➢ Chute and conveyor transfer points; and ➢ Discharge stockpile stackers. Stormwater controls • Diversion of clean stormwater around the processing area; • Water containment structures (contour ripping, back-sloped berms, perimeter bunding) on constructed landforms to prevent surface water runoff; • Drainage sumps to settle out sediments prior to discharge from the processing areas; and Provision of spill kits.	Schedule 1, Figure 1	Prior to the submittal of the Environmental Compliance Report required by condition 2.

	Infrastructure	Design and construction / installation requirements	Infrastructure location	Timeframe
2.	Class II landfill facility	Landfill facility layout • Trench to a depth of 4 metres, to be located within waste dump 1. Windblown waste controls • 2 metre perimeter bund on 3 sides; • Orientation so that bunding protects the tipping area from prevailing winds; and • Landfill to be covered at least monthly. Stormwater controls • Stormwater bunding to direct clean stormwater around the landfill area • Bunding and settlement sumps around hardstands to collect surface water; and • Water containment structures (contour ripping, back-sloped berms, perimeter bunding) on constructed landforms to prevent surface water runoff. Leachate controls • Landfill cells to be located so that the vertical distance between the waste and highest seasonal expected groundwater level is no less than 3 metres.	Exact location to be determined within Waste Dump 1, Schedule 1, Figure 1	Prior to the submittal of the Environmental Compliance Report required by condition 2.
3.	Wastewater treatment plant (WWTP)	Containerised WWTP with a capacity to treat 20m^3 of sewage per day. Includes the following components: • 14,000 litre balance tank; • Anerobic tank; • Anoxic tank; • Aeration tank; • Clarifier tank; • Settling tank; • Waste activated sludge tank; • Chlorine contact tank; • 6000 litre treated wastewater irrigation tank; • Treated wastewater pipeline; • Inlet screen; • Chemical dosing pump; • Flow meters for wastewater and brine; • Wastewater discharge pump; and	Schedule 1, Figure 1	Prior to the submittal of the Environmental Compliance Report required by condition 2.

	Infrastructure	Design and construction / installation requirements	Infrastructure location	Timeframe
		• Control panel with audible and visual pump fault and high irrigation and balance tank level alarm. Designed to meet the following effluent criteria: • pH 6.5 – 8.5 • Biochemical Oxygen Demand <20 mg/L • Total Suspended Solids <30mg/L • Total Nitrogen <30 mg/L • Total Phosphorous <8 mg/L • *E. coli* <1000 cfu/100ml; and • Residual free chlorine 0.2 - 2 mg/L Designed to meet the following discharge rates ➢ Total Nitrogen 219 kg/ha/year; and ➢ Total Phosphorous 58.4 kg/ha/year		
4.	Spray field	Sprayfield irrigation area consisting of • 1 hectare in area; • Stockproof fence around the perimeter; • Visible signage on the perimeter of the area; and • Irrigation pipelines and irrigation system.	Schedule 1, Figure 1	Prior to the submittal of the Environmental Compliance Report required by condition 2.

Compliance reporting

2. The works approval holder must within 60 calendar days of an item of infrastructure or equipment required by condition 1 being constructed and/or installed:

(a) undertake an audit of their compliance with the requirements of condition 1; and

(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

3. The Environmental Compliance Report required by condition 2, must include as a minimum the following:

(a) certification by a suitably qualified engineer or builder that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;

(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and

(c) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

Environmental commissioning phase

Environmental commissioning requirements and emission limits

4. The works approval holder may only commence environmental commissioning of an item of infrastructure listed in condition 5 once the Environmental Compliance Report has been submitted for that item of infrastructure in accordance with condition 2 of this works approval.

5. Any environmental commissioning activities undertaken for an item of infrastructure specified in Table 2 may only be carried out:

(a) in accordance with the corresponding commissioning requirements; and

(b) for the corresponding authorised commissioning duration.

Table 2: Environmental commissioning requirements

	Infrastructure	Commissioning requirements	Infrastructure location
1.	WWTP and spray field	Daily inspections logs of the following: • Integrity of all water lines, tanks and bunds; and • All piping and fittings to the irrigation spray field are free of damages and leaks. Monthly inspections logs of the following: • Observe the sprinklers in the irrigation field have even coverage and are operating as designed; and • Effluent discharge managed to ensure no ponding or runoff. General: • Record volume of effluent and brine discharged. • During the commissioning period treated effluent must be stored in the treated effluent/irrigation tanks until sample results are returned (Two consecutive compliant samples required to verify treated wastewater is compliant). Where sample results demonstrate compliance, effluent will be irrigated to the spray field. Where samples are not compliant with proposed effluent concentrations, the effluent will be recirculated through the WWTP until it demonstrates compliance or it will be disposed of offsite at a licensed facility; and • Brine from the RO plant will be mixed/diluted with effluent from the WWTP in the balance tank before discharge to the spray field. Design effluent quality criteria targeted at: • pH 6.8 – 8.5 pH units; • Biochemical Oxygen Demand <20mg/L; • Total Suspended Solids <30mg/L; • Total Nitrogen <30mg/L; • Total Phosphorus <8mg/L;	For a period not exceeding 12 weeks.

	Infrastructure	Commissioning requirements	Infrastructure location
		• E.coli <1,000 cfu/100ml; and • Residual free Chlorine 0.2 – 2.0 mg/L. • Total Dissolved Solids <1000 mg/L Loading rates targeted at: • Total Nitrogen 219 kg/ha/year; and • Total Phosphorous 58.4 kg/ha/year	

Monitoring during environmental commissioning

6. The works approval holder must monitor emissions during environmental commissioning in accordance with Schedule 3, Table 6.

7. The works approval holder must record the results of all monitoring activity required by condition 6.

8. The works approval holder must submit to the CEO an Environmental Commissioning Report within 30 calendar days of the completion date of environmental commissioning for each item of infrastructure specified in Table 2.

9. The works approval holder must ensure the Environmental Commissioning Report required by condition 8 of this works approval includes the following:

(a) a summary of the environmental commissioning activities undertaken, including timeframes and amount of wastewater effluent produced;

(b) the monitoring results recorded in accordance with condition 7 and compared against the design effluent quality criteria stipulated under in condition 5;

(c) a summary of the environmental performance of each item of infrastructure or equipment as constructed or installed (as applicable), which at minimum includes records detailing the:

(i) function testing of the components; and

(ii) commissioning of the system;

(d) a review of the works approval holder's performance and compliance against the conditions of this works approval; and

(e) where they have not been met, measures proposed to meet the manufacturer's design specifications and the conditions of this works approval, together with timeframes for implementing the proposed measures.

Time limited operations phase

Commencement and duration

10. The works approval holder may only commence time limited operations for an item of infrastructure identified in 1:

(a) where the item of infrastructure is not authorised to undertake environmental commissioning, the Environmental Compliance Report as required by condition 2 has been submitted by the works approval holder for that item of infrastructure; and

(b) where the item of infrastructure is authorised to undertake environmental commissioning under condition 5, the Environmental Commissioning Report for that item of infrastructure as required by condition 8 has been submitted by the works approval holder.

11. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 12 (as applicable):

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 10 for that item of infrastructure; or

(b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986*, if one is granted before the end of the period specified in condition 11(a).

Time limited operations requirements and emission limits

12. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 3 is maintained and operated in accordance with the corresponding operational requirement set out in Table 3.

Table 3: Infrastructure and equipment requirements during time limited operations

	Site Infrastructure and equipment	Operational requirement	Infrastructure location
1.	Semi-mobile crushing facility	• Volume of ore processed must be recorded. Dust controls: • Dust suppression systems are operational at all times during time limited operations; • Regular maintenance of dust suppression systems installed; • Regular housekeeping to collect and remove material that may present a potential dust risk from around conveyors and loading/unloading areas; • Water carts mobilised when required to control dust; and • Ore to be conditioned with water, when required, before final product transport. Stormwater controls • Visual inspections of drains and sumps after rainfall events; and • Monitoring to determine the severity of erosion on constructed landform slopes.	Schedule 1, Figure 1 and Figure 2.
2.	Operational landfill	The following types of wastes are to be disposed of at the landfill with the volume recorded: • Clean Fill; • Uncontaminated Fill; • Inert Waste Type 1; • Inert Waste Type 2; and • Putrescible Waste. Dust controls • Water carts mobilised when required to control dust; and	Schedule 1, Figure 1

	Site Infrastructure and equipment	Operational requirement	Infrastructure location
		• Weather and wind conditions to be monitored before earthworks Windblown waste controls: • Waste to be covered at least monthly; • Covering material to be inert waste type 1; and • Inspections of the surrounding area for wind-blown rubbish to occur monthly. Stormwater controls • Maintenance of windrows, bunding, roll over bund etc. to ensure clean stormwater ingress is prevented into the landfill facility and contaminated stormwater does not egress from the landfilling facility. Leachate controls • Only approved types of waste are accepted for burial. Volumes of waste discharged must be recorded.	
3.	Subsequent landfill cells	Subsequent landfill cells can be constructed and operated in accordance with the requirements stipulated by condition 1, table 1 and the operational requirements for the Operational landfill (Row 2 of condition 12, Table 3)	Schedule 1, Figure 1
4.	WWTP and spray field	Daily inspection logs for the following: • All pipework and fittings to the irrigation area ensure there are no leaks; and • Integrity of all tanks, water lines and bunds. Monthly inspection logs for the following: • Observe the sprinklers in the irrigation field have even coverage and are operating as designed; and • Effluent discharge managed to ensure no ponding or runoff. General: • Volumes of treated effluent and brine discharged must be recorded using flow meters. • During time limited operation all excess sludge will be periodically collected and disposed of by a licensed contractor RO brine must be mixed/diluted into the WWTP final effluent tank prior to discharge to the irrigation area.	Schedule 1, Figure 3 and Figure 4

	Site Infrastructure and equipment	Operational requirement	Infrastructure location
		Design effluent quality criteria targeted at: • pH 6.8 – 8.5 pH units; • Biochemical Oxygen Demand <20mg/L; • Total Suspended Solids <30mg/L; • Total Nitrogen <30mg/L; • Total Phosphorus <8mg/L; • E.coli <1,000 cfu/100ml; • Residual free Chlorine 0.2 – 2.0 mg/L; and • Total Dissolved Solids <1000 mg/L. Loading rates targeted at: • Total Nitrogen 219 kg/ha/year • Total Phosphorous 58.4 kg/ha/year	

Monitoring during time limited operations

13. The works approval holder must monitor emissions during time limited operations in accordance with Table 6, Schedule 3.

14. The works approval holder must record the results of all monitoring activity required by condition 13.

Compliance reporting

15. The works approval holder must submit to the CEO a report on the time limited operations within 60 calendar days of the completion date of time limited operations or 30 calendar days before the expiration date of the works approval, whichever is the sooner.

16. The works approval holder must ensure the report required by condition 15 includes the following:

(a) a summary of the time limited operations, including timeframes and amount of iron bearing ore processed;

(b) a summary of WWTP effluent results obtained during time limited operations under condition 13 and/or 14.

(c) a summary of the environmental performance of all infrastructure as constructed or installed (as applicable), which includes records detailing the:

(i) Iron bearing ore processed; and

(ii) Product produced.

(d) a review of performance and compliance against the conditions of the works approval and the Environmental Commissioning Report; and

(e) where the manufacturer's design specifications and the conditions of this works approval have not been met, what measures will the works approval holder take to meet them, and what timeframes will be required to implement those measures.

Records and reporting (general)

17. The works approval holder must record the following information in relation to complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant, (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

(d) the complete details and dates of any action taken by the works approval holder to investigate or respond to any complaint.

18. The works approval holder must maintain accurate and auditable books including the following records, information, reports, and data required by this works approval:

(a) the works conducted in accordance with condition 1;

(b) any maintenance of infrastructure that is performed in the course of complying with condition 1;

(c) monitoring programmes undertaken in accordance with condition(s) 6 and 13; and

(d) complaints received under condition 17.

19. The books specified under condition 18 must:

(a) be legible;

(b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;

(c) be retained by the works approval holder for the duration of the works approval; and

(d) be available to be produced to an inspector or the CEO as required.

Definitions

In this works approval, the terms in Table 4 have the meanings defined.

Table 4: Definitions

Term	Definition
AS/NZS1940:2017	means the Australian Standard AS/NZS 1940:2017 *The Storage and Handling of Flammable and Combustible Liquids.*
AS/NZS 5667.1-1998	means the Australian Standard AS/NZS 5667.1 – 1998 *Water quality – Sampling – Guidance on the design of sampling programs and the preservation and handling of samples.*
AS/NZS 5667.10-1998	means the Australian Standard AS/NZS 5667.10 – 1998 Water quality – Sampling – Guidance on the sampling of wastewaters.
books	has the same meaning given to that term under the EP Act.
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
Clean Fill	has the meaning defined in the Landfill Definitions.
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.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
environmental commissioning	means the sequence of activities to be undertaken to test equipment integrity and operation, or to determine the environmental performance, of equipment and infrastructure to establish or test a steady state operation and confirm design specifications.
Environmental Commissioning Report	means a report on any commissioning activities that have taken place and a demonstration that they have concluded, with focus on emissions and discharges, waste containment, and other environmental factors.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the works approval.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
Inert Waste Type 1	has the meaning defined in the Landfill Definitions.
Inert Waste Type 2	has the meaning defined in the Landfill Definitions.
Landfill Definitions	means the document titled "Landfill Waste Classification and Waste Definitions 1996 (as amended 2018)" published by the Chief Executive Officer of the Department of Water and Environmental Regulation as amended from time to time.
premises	the premises to which this works approval applies, as specified at the front of this works approval and as shown on the premises Figure 1 in Schedule 1 to this works approval.

Term	Definition
prescribed premises	has the same meaning given to that term under the EP Act.
Putrescible waste	has the meaning defined in the Landfill Definitions.
RO	Reverse Osmosis.
ROM	run of mine.
time limited operations	refers to the operation of the infrastructure and equipment identified under this works approval that is authorised for that purpose, subject to the relevant conditions.
Uncontaminated Fill	has the meaning defined in the Landfill Definitions.
waste	has the same meaning given to that term under the EP Act.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.
WWTP	Wastewater treatment plant.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in red in Figure 1 below.

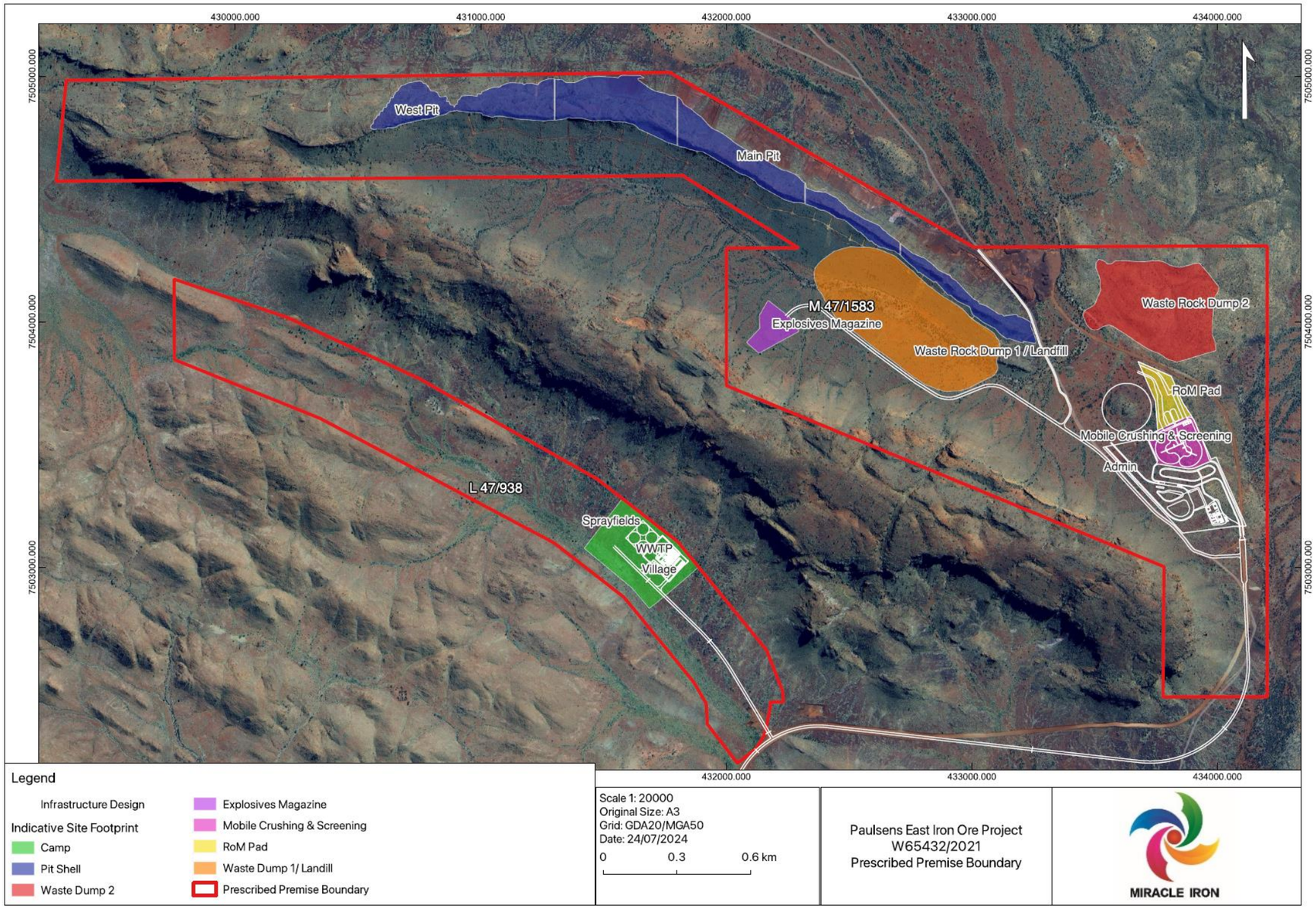

Figure 1: Map of the boundary of the prescribed premises

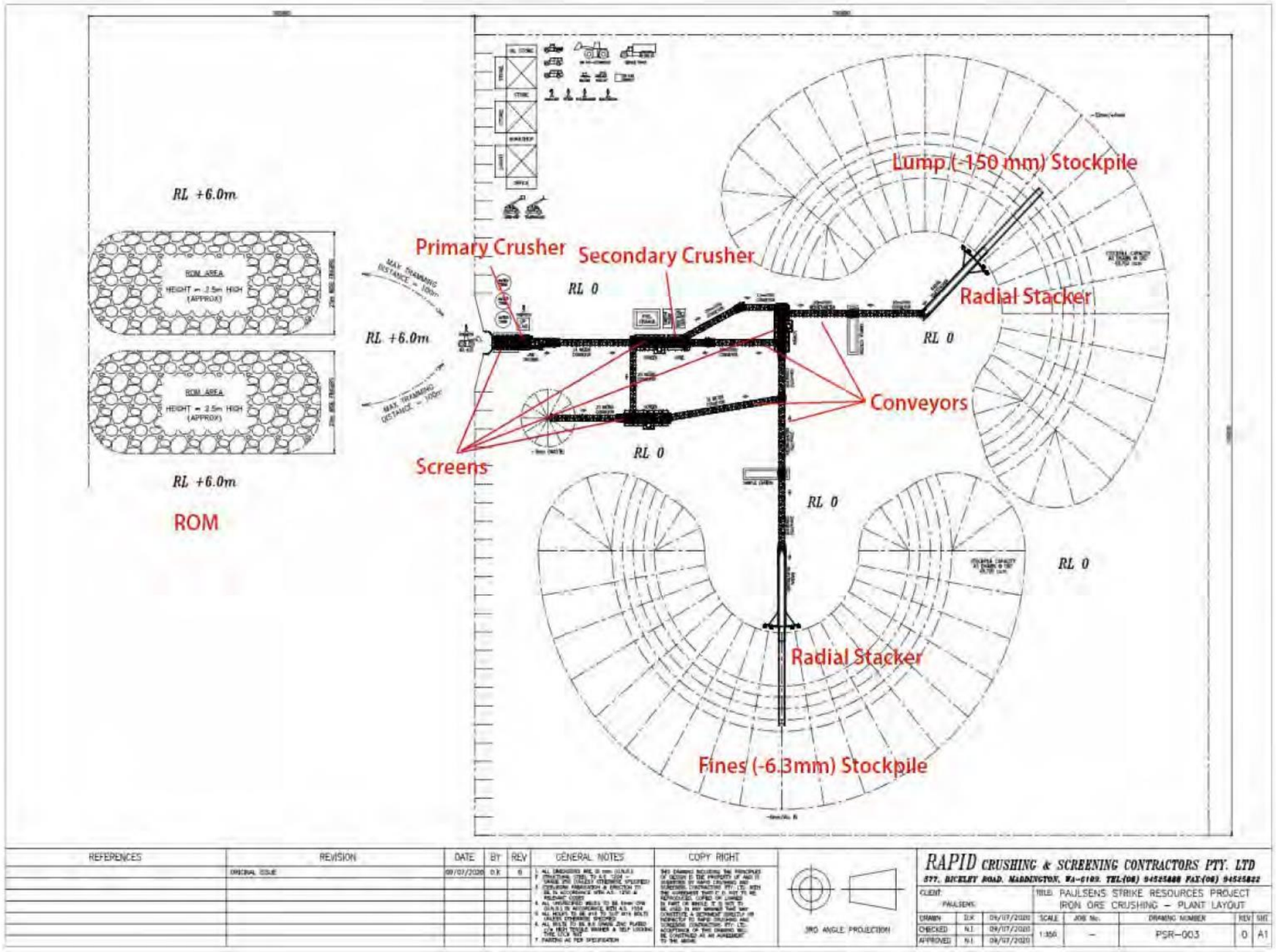

Figure 2: Crushing and screening facility layout

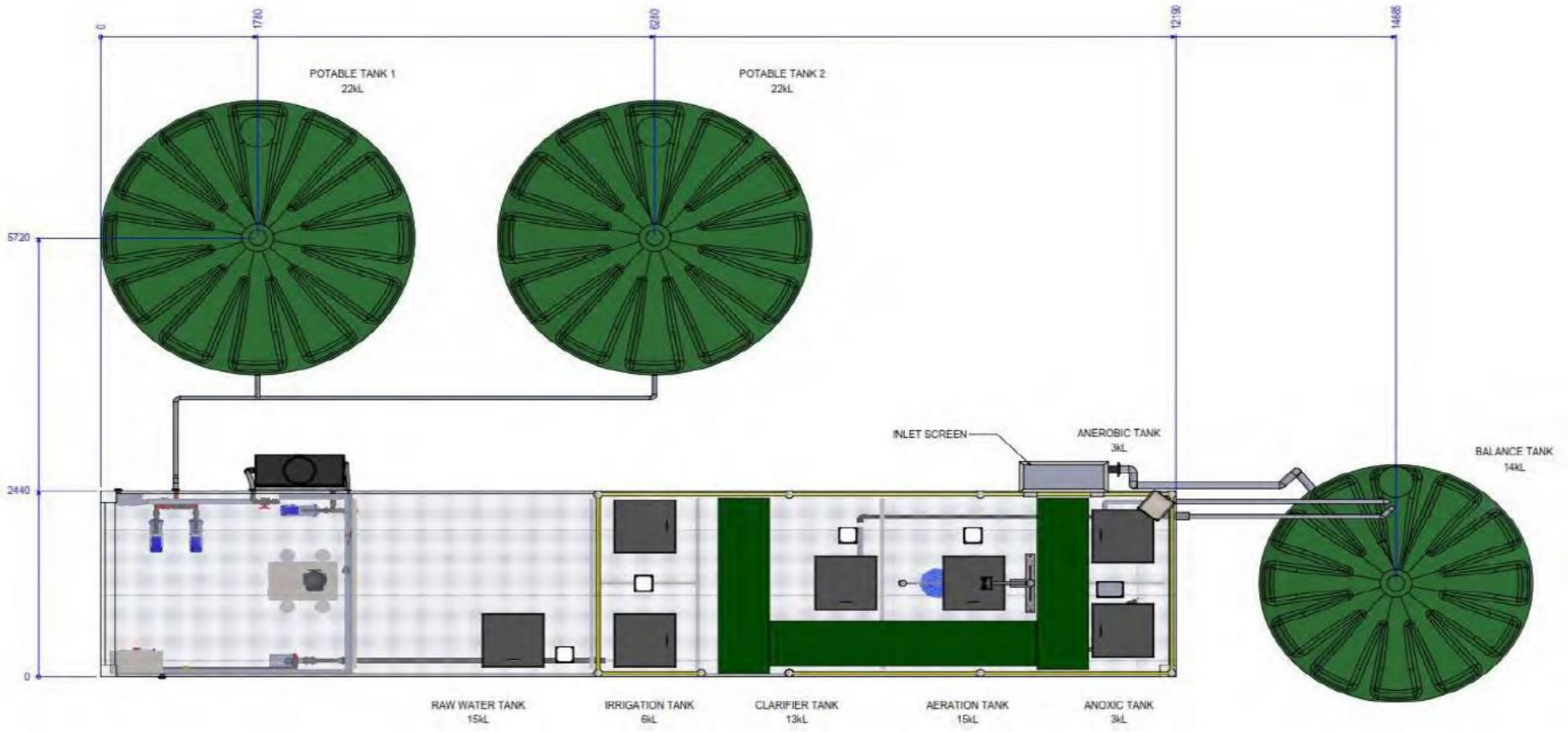

Figure 3: WWTP layout

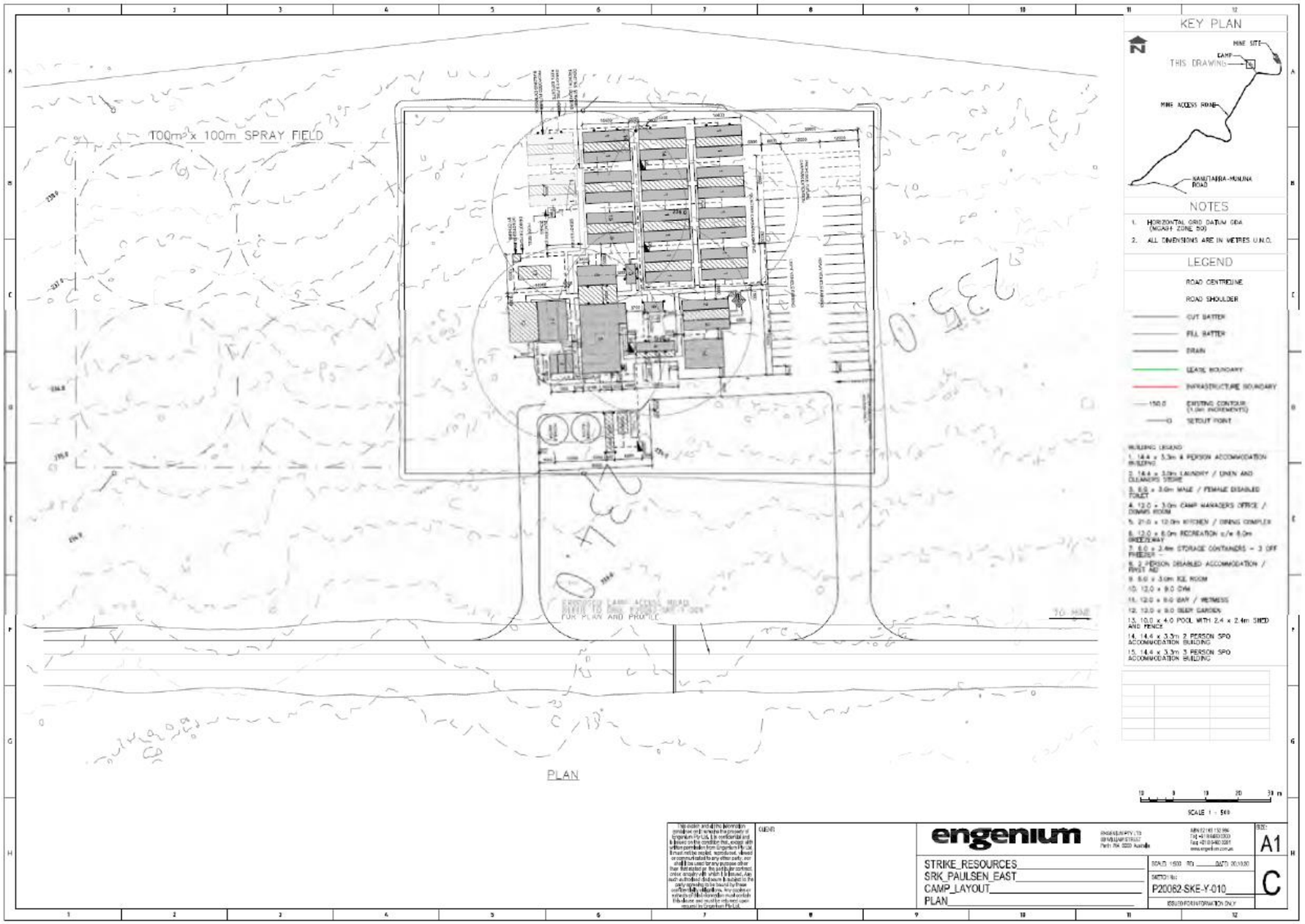

Figure 4: Spray field arrangement

Schedule 2: Premises boundary

The corners of the premises boundary are the coordinates listed in Table 5.

Table 5: Premises boundary coordinates (GDA2020)

Mining Tenement M47/1583			
	Easting	**Northing**	**Zone**
1.	429,270.583	7,504,571.966	50
2.	429,311.475	7,504,982.596	50
3.	431,768.217	7,505,015.358	50
4.	433,007.125	7,504,303.870	50
5.	434,202.145	7,504,309.002	50
6.	434,202.145	7,502,473.282	50
7.	433,778.140	7,502,473.284	50
8.	433,782.150	7,503,003.259	50
9.	432,000.111	7,503,740.277	50
10.	432,000.109	7,504,299.445	50
11.	432,293.206	7,504,300.744	50
12.	431,821.887	7,504,595.478	50
13.	429,270.583	7,504,571.966	50
Mining Tenement M47/938			
1.	431,922.508	7,502,361.998	50
2.	431,917.708	7,502,446.097	50
3.	431,866.207	7,502,534.796	50
4.	431,582.801	7,502,878.894	50
5.	431,297.794	7,503,100.294	50
6.	430,345.277	7,503,606.999	50
7.	429,752.269	7,503,846.003	50
8.	429,750.768	7,504,173.799	50
9.	430,211.474	7,504,017.796	50

10.	430,750.383	7,503,767.893	50
11.	431,474.999	7,503,359.389	50
12.	431,803.207	7,503,103.688	50
13.	432,163.814	7,502,662.991	50
14.	432,229.115	7,502,496.293	50
15.	432,232.315	7,502,453.194	50
16.	432,178.514	7,502,451.994	50
17.	432,179.914	7,502,437.794	50
18.	432,157.013	7,502,321.696	50
19.	432,120.012	7,502,261.498	50
20.	432,044.910	7,502,203.499	50
21.	431,922.508	7,502,361.998	50

Schedule 3: Monitoring

Table 6: Emissions and discharges monitoring

Discharge point	Parameter	Frequency	Averaging Period	Unit	Method Sampling and Analysis
WWTP Irrigation tank	Volume of reject brine discharged from the RO Plant at the WWTP to the Irrigation tank	Weekly during commissioning Quarterly during time limited operations	Cumulative weekly	m^3	AS5667.1-1998 AS5667.10-1998
	Volume of treated effluent from WWTP				
	pH		Spot sample	pH units	
	Biochemical Oxygen Demand			mg/L	
	Total Dissolved Solids				
	Total Suspended Solids				
	Total Nitrogen				
	Total Phosphorous				
	Residual free Chlorine				
	E.coli			cfu/100ml	