Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6863/2023/1
Works approval holder	Fortescue Ltd
ACN	002 594 872
Registered business address	Level 2, 87 Adelaide Terrace, East Perth WA 6004
DWER file number	DWERVT13704~30
Duration	19/03/2024 to 18/03/2027
Date of issue	19/03/2024
Date of amendment	23/04/2024
Premises details	Eliwana Rail Camp CH95 Wastewater Treatment Plant Legal description - Part of Mining Tenure L47/816 As defined by the coordinates in Schedule 2: Premises boundary

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production capacity**
Category 54: Sewage facility: premises — (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.	150 m^3 per day

This works approval is granted to the works approval holder, subject to the attached conditions, on 23 April 2024, by:

Melissa Chamberlain

Digitally signed by Melissa Chamberlain
Date: 2024.04.23 15:32:05 +08'00'

Melissa Chamberlain
A/MANAGER WASTE INDUSTRIES
REGULATORY SERVICES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Works approval history

Date	Reference number	Summary of changes
19/03/2024	W6863/2023/1	Works approval granted.
23/04/2024	W6863/2023/1	DWER initiated amendment to add ACN, correct references to Table 5 in condition 14 and update Schedule 1 Figure 1: Map of the boundary of the prescribed premises.

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

Construction phase

Infrastructure and equipment

1. The works approval holder must:

(a) install the infrastructure and/or equipment;

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

(c) at the corresponding infrastructure location;

as set out in Table 1: Infrastructure and equipment requirements.

Table 1: Infrastructure and equipment requirements

	Infrastructure	Design and construction / installation requirements	Infrastructure location
1.	Wastewater Treatment Plant (WWTP)	(a) Containerised and enclosed WWTP sequence batch reactor system comprising of: (i) Three balance tanks (combined 150kL) (ii) Two waste activated sludge tanks (combined 100kL) (iii) Two sequential batch reactors (combined 100kL capacity) (iv) Four final effluent/chlorine contact tanks (combined 200kL) (b) All sewage storage and treatment tanks, vessels, transfer pipelines and conveyance infrastructure must be impermeable and free of leaks or defects; (c) Above ground infrastructure located on a hardstand within an earthen bund; (d) Stormwater is prevented from entering the sewage treatment system and storage infrastructure; (e) WWTP able to treat up to 150 m^3 of sewage per day; (f) WWTP able to treat sewage to the following discharge limits: (i) 5-day Biochemical Oxygen Demand (BOD_5) <20 mg/L (ii) Total suspended solids (Total suspended solids) <30 mg/L (iii) Total nitrogen <20 mg/L (iv) Total phosphorus <7.5 mg/L (v) Thermotolerant coliforms $\leq$1000 colony forming units (CFU)/100 ml (vi) Residual free chlorine 0.2-2.0 mg/L (g) Flow meters installed on the inlet and outlet side of the plant to record both inflows and outflows from the WWTP; and (h) Alarm system installed to notify the operator of (i) pump fails; (ii) high tank levels; and tank overflows.	Figure 1 of Schedule 1.

	Infrastructure	Design and construction / installation requirements	Infrastructure location
2.	Irrigation spray field	The irrigation field must be designed and constructed to meet the following specifications: (a) Minimum 3 ha irrigation spray field with above ground sprinkler units; (b) Low trajectory large droplet impact sprinklers to be installed to discharged treated wastewater; (c) Fenced with a vehicle access gate; and (d) Warning signage fixed to all sides of the fence advising the area is used for the disposal of treated wastewater (e) Not more than 150 m3 per day of treated effluent to be applied to the designated irrigation area; (f) Irrigation is managed to prevent ponding and pooling of effluent on the ground surface of the irrigation spray field; and (g) No treated effluent is permitted to be discharged outside of the irrigation area identified in Schedule 1.	Figure 1 of Schedule 1
3.	All infrastructure and equipment	(a) All sewage storage and treatment tanks, vessels, pipework, fittings, and joints are to be constructed of impervious material and free from leaks and/or defects; (b) All sewage storage and treatment tanks, vessels, pipework, fittings, and joins must be designed and constructed to ensure that stormwater does not enter the sewage treatment system and treated wastewater storage infrastructure; and (c) All pipework, fittings and pumps must be hydraulically tested to the required pressure and visually inspected for any defects to ensure infrastructure is fit for purpose prior to use.	Figure 1 of Schedule 1
4.	RO brine supply pipeline	Connected to a volumetric flow meter to monitor the daily volume of RO brines delivered to the WWTP irrigation tanks.	Figure 1 of Schedule 1

2. The works approval holder must not depart from the design and construction requirements specified in Table 1 except:

(a) where such departure is minor in nature and does not materially change or affect the infrastructure; or

(b) where such department improves the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment;

and

(c) all other conditions in this works approval are still satisfied.

Compliance reporting

3. The works approval holder must within 30 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.

4. The Environmental Compliance Report required by condition 4, must include as a minimum the following:

(a) certification by a suitably qualified, competent engineer that the items of infrastructure and components 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.

(d) where a departure from the requirements in condition 1 occurs and is of a type allowed by condition 2, the works approval holder must provide a description of, and explanation for, the departure.

Environmental commissioning phase

Environmental commissioning requirements and emission limits

5. The works approval holder may only commence environmental commissioning of an item of infrastructure listed in condition 6 once the Environmental Compliance Report has been submitted for that item of infrastructure in accordance with conditions 3 and 4 of this works approval.

6. 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	Authorised commissioning duration
Irrigation sprayfield	a) No more than 150 m^3 of treated effluent is discharged to the irrigation sprayfield per day. b) Irrigation is managed to prevent ponding and pooling of effluent on the ground surface of the irrigation sprayfield.	A period not exceeding 60 calendar days in aggregate.

Infrastructure	Commissioning requirements	Authorised commissioning duration
WWTP and pipeline	a) Treated effluent that meets design specifications listed in condition 1 may be disposed of to the irrigation field; b) Treated effluent that does not meet design specifications listed in condition 1 is to be: (i) removed by a licensed Controlled Waste Carrier for disposal to a premises authorised by the department to accept the waste; or (ii) re-circulated back through the WWTP; c) Volumetric flow meters are maintained on the WWTP inlet and outlet to the irrigation sprayfield. d) Earthen bunding is maintained around the WWTP perimeter. e) Sludge is contained within sealed sludge tanks prior to removal by a licensed waste carrier for disposal to a licensed disposal facility. f) Chemicals are stored in accordance with Australian Standard AS3780-2008 Storage and Handling of Corrosive Substances. g) In the event of a leak/spill, the source will be isolated, and any contaminated soil remediated or disposed of to an appropriately licensed facility.	

7. During environmental commissioning, the works approval holder must ensure that the emission specified in Table 3, is discharged only from the corresponding discharge point(s) and only at the corresponding discharge point location.

Table 3: Authorised discharge points during commissioning

Emission	Discharge point	Discharge point location
Blended effluent	Sprinklers within the irrigation sprayfield.	Irrigation sprayfield as shown in Figure 1 of Schedule 1.

Monitoring during environmental commissioning

8. The works approval holder must monitor emissions during environmental commissioning in accordance with Table 4.

Table 4: Emissions monitoring during environmental commissioning

Discharge point	Monitoring location	Parameter	Frequency	Averaging Period	Unit
Irrigation sprayfield	WWTP outlet	Thermotolerant coliforms	Weekly	Spot sample	cfu or MPN /100 ml
		BOD_5			mg/L
		Total suspended solids			

		Total dissolved solids			
		Total nitrogen			
		Total phosphorus			
		pH[1]	Daily or continuous online		pH units
		Residual chlorine[1]	Daily or continuous online		mg/L
		Cumulative flow volume discharged to sprayfield[1]	Continuous	N/A	m^3/day

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

9. For the monitoring activity required by condition 8, the works approval holder must:

(a) record the results;

(b) handle and preserve all water samples collected during the monitoring of the WWTP in accordance with AS 5667.1 and AS 5667.10; and

(c) have analysis conducted by a laboratory with current National Association of Testing Authorities (NATA) accreditation for the parameters specified.

Environmental Commissioning Report

10. 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.

11. The works approval holder must ensure the Environmental Commissioning Report required by condition 10 of this works approval includes the following:

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

(b) a summary of treated effluent monitoring results recorded in accordance with condition 10;

(c) copies of laboratory reports for treated effluent monitoring results recorded in accordance with condition 10;

(d) a summary of the environmental performance of each item of infrastructure or equipment as installed, which at minimum includes:

(i) a comparison of the treated effluent monitoring results against discharge limits specified in condition 1;

(ii) assessment of the irrigation sprayfield performance against operational requirements in condition 6;

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

(f) 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

12. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1 where the Environmental Commissioning Report for that item of infrastructure as required by condition 10 has been submitted by the works approval holder; and

13. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 14:

(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 registration or licence for that item of infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986* and only where this occurs prior to the time period specified in sub provision (a).

Time limited operations requirements and emission limits

14. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 5 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 5.

Table 5: Infrastructure and equipment requirements during time limited operations

Site infrastructure and equipment	Operational requirements	Infrastructure location
Irrigation sprayfield	a) No more than 150 m^3 per day of blended effluent is discharged to the irrigation sprayfield. b) Irrigation is managed to prevent ponding and pooling of effluent on the ground surface of the irrigation sprayfield. c) No blended effluent is permitted to runoff or discharge beyond the premises boundary. d) No discharge of undiluted RO brine is permitted.	Figure 1 of Schedule 1.
WWTP and pipeline	a) Volumetric flow meters are maintained on the WWTP inlet and outlet to the irrigation sprayfield. b) Earthen bunding is maintained around the WWTP perimeter. c) Sludge is contained within sealed sludge tanks prior to removal by a licensed waste carrier for disposal to a licensed disposal facility. d) Screenings are contained within a sealed bin prior to removal for disposal to a licensed disposal facility. e) Chemicals including sodium hypochlorite are stored in a dangerous goods container. f) Chemicals are stored in accordance with Australian Standard *AS3780-2008 Storage and Handling of Corrosive Substances*. g) Spills of wastewater or chemicals outside of a	Figure 1 of Schedule 1.

Site infrastructure and equipment	Operational requirements	Infrastructure location
	vessel/container are cleaned up immediately.	
RO brine pipeline	a) No more than 50m^3 per day of RO brine is supplied to the WWTP. b) Volumetric flow meters are maintained to monitor daily volume of RO brine delivered to the WWTP irrigation storage tanks.	Figure 1 of Schedule 1.

15. During time limited operations, the works approval holder must ensure that the emission specified in Table 6, is discharged only from the corresponding discharge points and only at the corresponding discharge point location.

Table 6: Authorised discharge points during time limited operations

Emission	Discharge point	Discharge point location
Blended effluent	Sprinklers within the irrigation spray field	Irrigation spray field as shown in Figure 1 of Schedule 1.

Monitoring during time limited operations

16. During time limited operations, the works approval holder must ensure that the emissions from the discharge point listed in Table 7 does not exceed the corresponding limit(s) when monitored in accordance with condition 17.

Table 7: Emission and discharge limits during time limited operations

Discharge point	Parameter	Concentration limit	Loading limit
Irrigation spray field	BOD_5	20 mg/L	30 kg/ha/day
	Total suspended solids	30 mg/L	Not applicable
	Total dissolved solids	2 800 mg/L	Not applicable
	Total nitrogen	20 mg/L	240 kg/ha over 120 days
	Total phosphorus	7.5 mg/L	90 kg/ha over 120 days
	Thermotolerant coliforms	1,000 cfu/100mL	Not applicable
	Residual chlorine	2.0mg/L	Not applicable
	pH	6.5 to 8.5	Not applicable

17. The works approval holder must monitor emissions during time limited operations in accordance with Table 8.

Table 8: Emissions and discharge monitoring during time limited operations

Discharge point	Monitoring location	Parameter	Frequency	Averaging Period	Unit
Irrigation sprayfield	WWTP outlet	Thermotolerant coliforms	Monthly during time limited operations phase	Spot sample	cfu or MPN /100 mL

Discharge point	Monitoring location	Parameter	Frequency	Averaging Period	Unit
		BOD_5			mg/L
		Total suspended solids			
		Total nitrogen			
		Total phosphorus			
		pH[1]			
		Total dissolved solids			
		pH[1]	Daily or continuous	24 hours	pH units
		Residual chlorine[1]			mg/L
		Cumulative flow volume discharged to sprayfield[1]	Continuous		m^3/day
	RO brine pipeline outlets	Cumulative flow volume supplied to the irrigation storage tanks[1]			

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

18. For the monitoring activity required by condition 17, the works approval holder must:

(a) record the results;

(b) handle and preserve all water samples collected during the monitoring of the WWTP in accordance with AS 5667.1 and AS 5667.10; and

(c) have analysis conducted by a laboratory with current National Association of Testing Authorities (NATA) accreditation for the parameters specified.

Compliance reporting

19. The works approval holder must submit to the CEO a report on the time limited operations within 30 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.

20. The works approval holder must ensure the report required by condition 19 includes the following:

(a) a summary of the time limited operations, including date(s) for commencement of time limited operations, timeframes and amount of wastewater processed;

(b) a summary of monitoring parameter results obtained during time limited operations under condition 17.

(c) copies of laboratory reports for treated effluent monitoring results recorded in accordance with condition 17;

(d) a summary of the environmental performance of each item of infrastructure or equipment as installed, which at minimum includes:

(e) a comparison of the treated effluent monitoring results against discharge limits specified in condition 1;

(f) assessment of the spray irrigation field performance against operational requirements in condition 14;

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

(h) where the 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)

21. 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.

22. 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 conditions 5 and 14;

(c) monitoring programmes undertaken in accordance with conditions 8 and 17; and

(d) complaints received under condition 21.

23. The books specified under condition 22 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 9: Definitions have the meanings defined.

Table 9: Definitions

Term	Definition
AS3780-2008	means Australian Standard AS3780-2008 Storage and Handling of Corrosive Substances
AS 5667.1	means Australian Standard 5667.1 Water quality - Sampling
AS 5667.10	means Australian Standard 5667.10 Water quality - Sampling Guidance on sampling of waste waters
blended effluent	means treated effluent from the wastewater treatment plant blended with RO brine
BOD_5	5-day Biochemical Oxygen Demand
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
cfu	colony forming units
condition	means a condition to which this works approval is subject under s.62 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.
discharge	has the same meaning given to that term under the EP Act.
DWER	Department of Water and Environmental Regulation
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 equipment has been installed in accordance with the works approval.

Term	Definition
EP Act	means the *Environmental Protection Act 1986* (WA).
EP Regulations	means the *Environmental Protection Regulations 1987* (WA).
ha	hectare
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
kg	kilogram
m^3	cubic metres
mg/L	milligrams per litre
ml	Millilitre
MPN	most probable number
NATA	National Association of Testing Authorities
NATA accreditation	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
premises	refers to the premises to which this works approval applies, as specified at the front of this works approval and as shown on the map in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
RO	Reverse osmosis
spot sample	means a discrete sample representative at the time and place at which the sample is taken.
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.
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 s.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

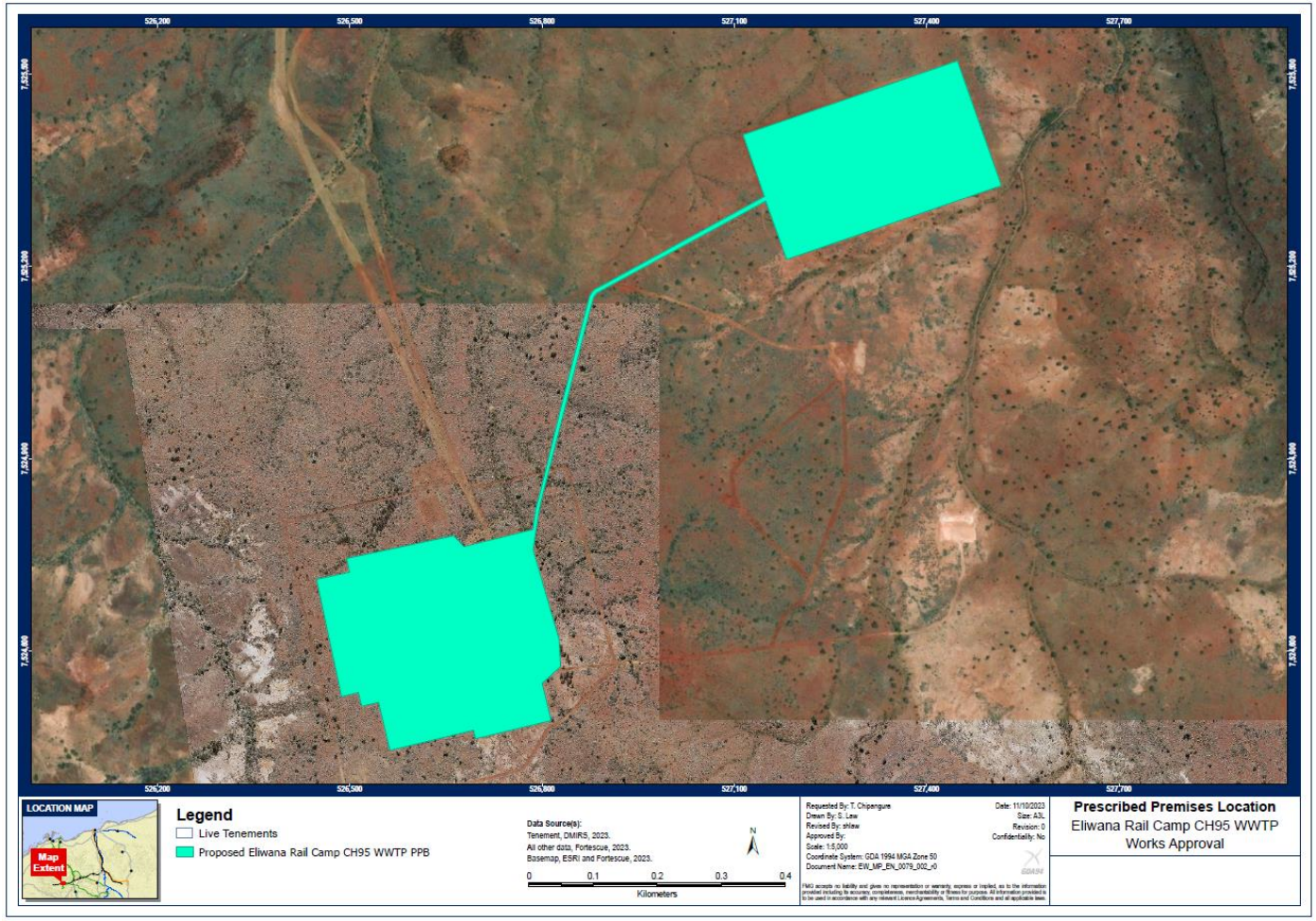

Figure 1: Map of the boundary of the prescribed premises

Schedule 2: Premises boundary

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

Table 10: Premises boundary coordinates (GDA2020 MGA Zone 50)

	Easting	Northing
1.	527516.7	7525326
2.	527181.6	7525211
3.	527149.2	7525301
4.	527149	7525302
5.	526886	7525159
6.	526880.7	7525152
7.	526874.5	7525131
8.	526811.8	7524885
9.	526803.3	7524852
10.	526798.7	7524834
11.	526795.4	7524819
12.	526791.1	7524790
13.	526790.3	7524785
14.	526789.2	7524778
15.	526786.1	7524757
16.	526813.4	7524664
17.	526826.5	7524618
18.	526828.8	7524575
19.	526800.2	7524549
20.	526814.2	7524491
21.	526696.4	7524463
22.	526693.2	7524476
23.	526562.9	7524445
24	526544.8	7524520
25.	526518.7	7524513
26.	526513.5	7524535
27.	526487.2	7524529
28.	526448.3	7524712
29.	526499.8	7524723
30.	526495.2	7524744
31.	526662.2	7524780
32.	526678.4	7524763
33.	526785.6	7524789
34.	526790	7524821
35.	526798.6	7524853
36.	526830.5	7524983
37.	526873.9	7525152

38.	526877.9	7525160
39.	526882.5	7525164
40.	526892.2	7525169
41	527146.8	7525309
42	527146.2	7525311
43.	527113.5	7525405
44.	527447.9	7525521
45.	527516.7	7525326