Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6517/2021/1
Works approval holder	Covalent Lithium Pty Ltd
ACN	623 090 139
Registered business address	Level 18, 109 St Georges Terrace PERTH WA 6000
DWER file number	DER2021/000054
Duration	22/04/2021 to 21/04/2026
Date of amendment	26/10/2021
Premises details	Earl Grey Lithium Project Wastewater Treatment Plant Marvel Loch – Forrestania Road MOUNT HOLLAND Portion of Mining Tenement M77/1066 As defined by the coordinates set out in Schedule 1

Prescribed premises category description **(Schedule 1, *Environmental Protection Regulations 1987*)**	**Assessed design 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.	Up to 150 cubic metres per day

This works approval is granted to the works approval holder, subject to the attached conditions, on 26 October 2021, by:

Melissa Chamberlain

Digitally signed by Melissa Chamberlain
Date: 2021.10.26 10:27:46 +08'00'

Melissa Chamberlain
SENIOR ENVIRONMENTAL OFFICER
REGULATORY SERVICES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Works approval history

Date	Reference number	Instrument summary
22/04/2021	W6517/2021/1	New works approval granted.
26/10/2021	W6517/2021/1	Amendment to Works Approval to change capacity from 154 m^3/day to 150 m^3/day; remove reference to Stage 2's Stabilisation Ponds; add an additional SBR WWTP to Stage 2 with associated sprayfield; make Stage 1's SBR WWTP's permanent and increase the associated sprayfield area from 2.4 ha to 2.66 ha.

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

Site infrastructure and equipment		Design and construction / installation requirements	Infrastructure location	Timeframe
Stage 1				
1.	Sequence batch reactor (SBR) sewage treatment plant	• The sewage treatment system must be designed and constructed to meet the following specifications: (a) be able to receive and treat a sewage inflow of up to 100 m^3/ day; (b) accommodate peak instantaneous flows of 21 m^3/hour (c) direct all treated wastewater to dedicated sprayfield. • Duty 2.5 mm inlet bar screen • 2 x 12 m x 2.5 m custom coated steel tanks • External 2 x 50 kl Polyethylene sequence batch reactor (SBR) balance tanks • Duty balance pump • SBR tanks fitted with heavy duty submersible aerators and floating decant weir • SBR tank operating volumes adjustable to cater for lower inflows	Refer to Figure 1, Schedule 1	April 2021

Site infrastructure and equipment		Design and construction / installation requirements	Infrastructure location	Timeframe
		• SBR process sequence times adjustable to suit influent/effluent concentrations • Duty decant pump • Worm Drive duty sludge pump • Duty recirculation pump with online chlorine dosing • Sodium hypochlorite dosing system • Polyethylene aluminum chloride dosing system. • Sucrose dosing system • 2 x 50 kL polyethylene sludge storage tanks • 2 x 50 kL polyethylene reject tanks • Irrigation pump • Discharge flow meter • Control panel (Australian Standard) with PLC and remote monitoring capabilities • Audible and visual alarm • Access ladder and high-level platform to top of container		
2.	Sewage pump station	• HDPE packaged pump station pit • Submersible duty and standby solids handling semi vortex pumps • Audible & Visual fault alarms • Control panel • Inspection/maintenance lid • Stainless steel lifting chains and guide rails • Auto couplings • Non-return valve and isolation valve for each pump • Float switch	Refer to Figure 1, Schedule 1	April 2021
3.	Irrigation	• Irrigation array of 28 hammer	Refer to Figure	April 2021

Site infrastructure and equipment		Design and construction / installation requirements	Infrastructure location	Timeframe
	sprayfield	sprinklers with 30 m spray radius, atop 200 mm risers supported by star pickets • Minimum 4 mm sprinkler nozzles • Pipework fitted with terminal flushing valves • At least 26,600 m^2 in discharge area with 5 m spray drift buffer from the edge of outer sprinklers	1, Schedule 1	
4.	Perimeter Bunds	• Earthen bunds in northeast and southwest of premises • Shall not extend beyond the premises boundary • Daylight drains to natural ground level	Refer to Figure 1, Schedule 1	April 2021
Stage 2				
5.	Sequence batch reactor (SBR) sewage treatment plant	• The sewage treatment system must be designed and constructed to meet the following specifications: (a) be able to receive and treat a sewage inflow of up to 50 m^3/ day; (b) accommodate peak instantaneous flows of 21 m^3/hour (c) direct all treated wastewater to dedicated sprayfield. • Duty 2.5 mm inlet bar screen • 12 m x 2.5 m custom coated steel tanks • External 50 kl Polyethylene sequence batch reactor (SBR) balance tanks • Duty balance pump • SBR tanks fitted with heavy duty submersible aerators and floating decant weir • SBR tank operating volumes adjustable to cater for lower	Refer to Figure 1, Schedule 1	September 2021

Site infrastructure and equipment		Design and construction / installation requirements	Infrastructure location	Timeframe
		inflows • SBR process sequence times adjustable to suit influent/effluent concentrations • Duty decant pump • Worm Drive duty sludge pump • Duty recirculation pump with online chlorine dosing • Sodium hypochlorite dosing system • Polyethylene aluminum chloride dosing system. • Sucrose dosing system • 50 kL polyethylene reject tanks • Irrigation pump • Discharge flow meter • Control panel (Australian Standard) with PLC and remote monitoring capabilities • Audible and visual alarm • Access ladder and high-level platform to top of container		
6.	Irrigation sprayfield	• Irrigation array of 28 hammer sprinklers with 30 m spray radius, atop 200 mm risers supported by star pickets • Minimum 4 mm sprinkler nozzles • Pipework fitted with terminal flushing valves • At least 22,500 m^2 in area with an additional 5 m spray drift buffer from the edge of outer sprinklers.	Refer to Figure 1, Schedule 1	September 2021

Emissions

2. The works approval holder must manage dust generation at the premises by:

(a) Wetting down unsealed roads and exposed areas;

(b) Limiting all vehicle traffic within the premises boundary to speeds of less than 10 km/hr;

(c) ceasing dust-generating activities during strong wind conditions; and

(d) dumping and/or offloading material from a height of no more than 2 metres.

3. The works approval holder shall immediately recover, or remove and dispose of, spills of environmentally hazardous materials including fuel, oil, or other hydrocarbons, whether inside or outside an engineered containment system.

4. The works approval holder shall ensure that all material used for the recovery, removal, and/or disposal of environmentally hazardous materials is stored in an impermeable container prior to disposal at an appropriately authorised facility.

5. The works approval holder must ensure that construction activities at the premises only occur between the hours of 06:00 to 18:00.

Compliance reporting

6. The works approval holder must within 30 calendar days of an item of infrastructure or equipment required by condition 1 for Stage 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.

7. The works approval holder must within 30 calendar days of an item of infrastructure or equipment required by condition 1 for Stage 2 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.

8. The Environmental Compliance Report required by conditions 6 and 7, must include as a minimum the following:

(a) certification by a mechanical engineer, with at least 5 years' experience in supervisory or certification tasks, 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.

Time limited operations phase

Commencement and duration

9. The works approval holder may only commence Time Limited Operations for Stage 1 of the WWTP once the relevant Environmental Compliance Report has been submitted in accordance with condition 6 and 8 of this works approval.

10. The works approval holder may conduct Time Limited Operation of the SBR sewage treatment plant

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 9; or

(b) until such time, not exceeding the period outlined in condition 10(a)(a), as approval under licence for the infrastructure and equipment listed in Table 2 is granted in accordance with Part V of the *Environmental Protection Act 1986.*

Time limited operations requirements and emission limits

11. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 2 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

Table 2: Infrastructure and equipment requirements during time limited operations

Site infrastructure and equipment		Operational requirement	Infrastructure location
1.	Irrigation area and irrigation system consisting of irrigation line connecting sprayfield and pump connecting to the final treated wastewater storage tank.	Irrigation system valves, pumps, pipelines, and other fittings must be maintained and inspected daily for ruptures or leaks when irrigating.	Labelled as Sprayfield in Schedule 1, Figure 2
		Spray irrigator to be maintained to ensure no blockages to allow even and effective spray production and ensure mobility, stopping and cutoff mechanisms are functioning as per equipment design	
		Spray irrigator operated to deliver treated wastewater at a maximum rate of 12 m^3/hour	
		Records must be kept of all maintenance conducted and results of all routine irrigation system equipment and infrastructure inspections.	
		Fenced to exclude large fauna and unauthorised access to irrigation area	

12. During time limited operations, the works approval holder must ensure that the emission(s) specified in Table 3, are discharged only from the corresponding discharge point(s) and only at the corresponding discharge point location(s).

Table 3: Authorised discharge points

	Emission	Discharge point	Discharge point location
1.	Treated effluent	Sprayfield	Refer to Premises Map in Schedule 1

13. During time limited operations, the works approval holder must ensure that the emissions from the discharge point listed in Table 4 do not exceed the corresponding limit(s) when monitored in accordance with condition 14.

Table 4: Emission and discharge limits during time limited operations

	Discharge point	Parameter	Units	Limit
1.	Sprayfield	Biological oxygen demand	mg/l	<20
		Total suspended solids	mg/l	<30
		Total Nitrogen	mg/l	<30
		Total Phosphorus	mg/l	<8
		pH	pH units	6.5 – 8.5
		Free Chlorine	mg/l	0.2 – 2.0
		E. coli	CFU/100 ml	<1, 000

Monitoring during time limited operations

14. The works approval holder must monitor emissions during time limited operations in accordance with Table 5.

Table 5: Emissions and discharge monitoring during time limited operations

Discharge point	Monitoring location	Parameter	Frequency	Averaging period	Unit	Method
Sprayfield	Flow meter	Volume	Continuous	Cumulative daily	Kl/day	Mag-flow meter
	Sample tap	Biological oxygen demand	Weekly	Spot sample	mg/l	AS/NZS 5667.10
		Total suspended solids			mg/l	
		Total Nitrogen			mg/l	
		Total Phosphorus			mg/l	
		pH			pH units	
		Free Chlorine			mg/l	
		E. coli			CFU/100 ml	
		Turbidity			NTU	

Compliance reporting

15. 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.

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 effluent processed;

(b) a summary of water quality results obtained during time limited operations under condition 14;

(c) a summary of the environmental performance of all infrastructure as constructed or installed (as applicable), which includes records detailing a summary of the environmental performance of the WWTP as installed against the design specification set out in condition 13, Table 4; and

(d) 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 11.

(c) monitoring programmes undertaken in accordance with condition 14; 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 6 have the meanings defined.

Table 6: Definitions

Term	Definition
AS/NZS 5667.10	AS/NZS 5667.10:1998 - Water quality - Sampling Guidance on sampling of waste waters (Reconfirmed 2016)
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
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 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).
HDPE	High-density polyethylene
premises	the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
Stage 1	means work relating to the construction and installation of the Sequence batch reactor (SBR) sewage treatment plant and associated sprayfield, as outlined in Table 1.

Term	Definition
Stage 2	Means work relating to the construction and installation of an additional SBR WWTP and irrigation area as outlined in Table 1.
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 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	Earl Grey Lithium Project Wastewater Treatment Plant

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (**Figure 1**).

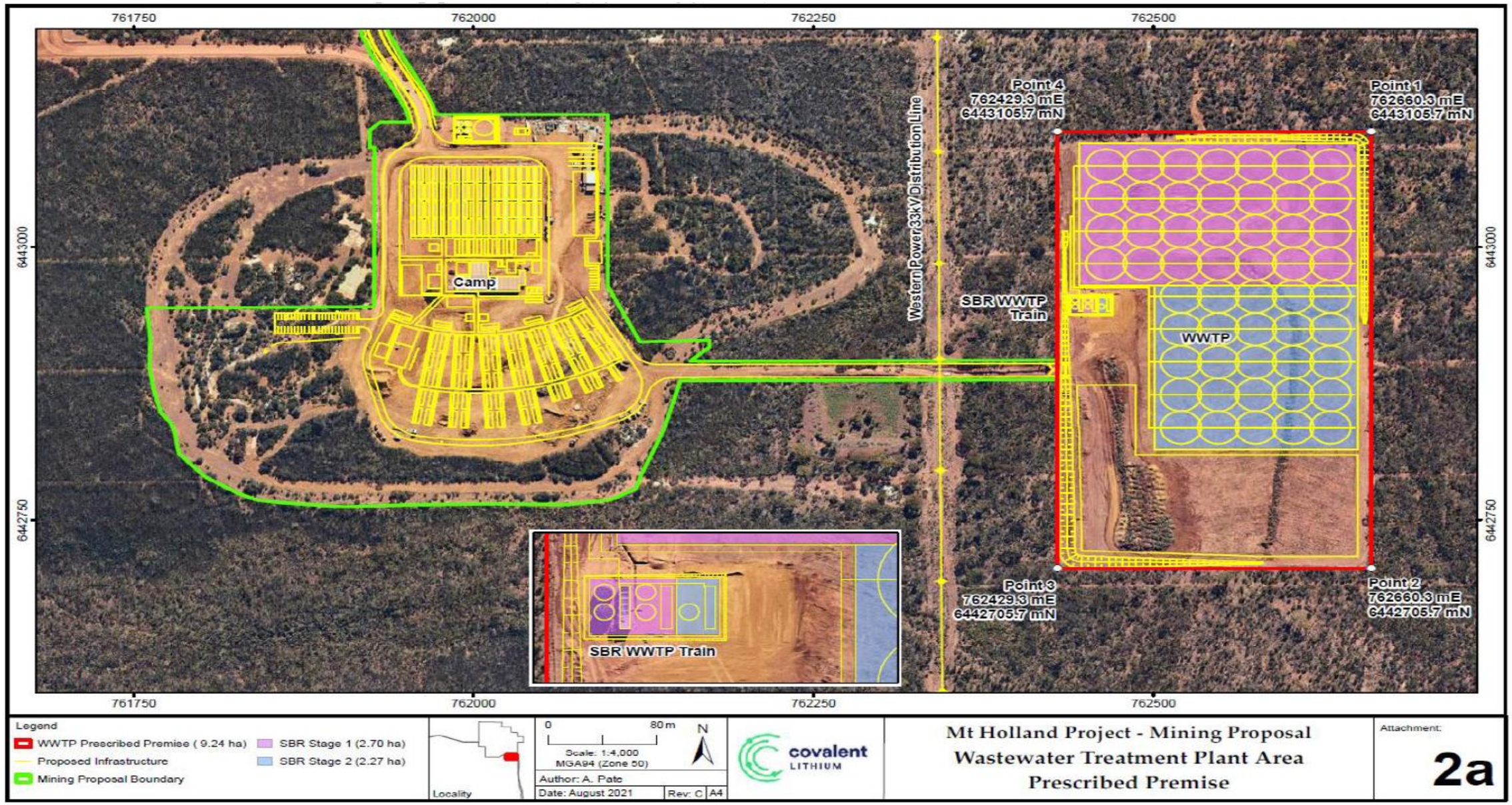

Figure 1: Map of the boundary of the prescribed premises – Prescribed premises boundary is represented by the red outline

Schedule 2: Premises boundary

The premises boundary is defined by the coordinates in Table 7.

Premises oordinates are in metres, listed in Map Grid of Australia Zone 50 (MGA Zone 50), datum of Geocentric Datum of Australia 1994 (GDA94).

Table 7: Premises boundary coordinates

Easting	Northing
762429.3	6443105.7
762660.3	6443105.7
762660.3	6442705.7
762429.3	6442705.7