Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W3105/2025/1
Works approval holder	Alcoa of Australia Limited
ACN	004 879 298
Registered business address	Level 2, 235 St Georges Terrace PERTH WA 6000
DWER file number	INS-0003105
Duration	05/02/2026 to 04/02/2029
Date of issue	05/02/2026
Premises details	Kwinana Alumina Refinery Hogg Road NAVAL BASE WA 6167 Legal description - Part of Lot 501 on Deposited Plan 727207, Lot 200 on Deposited Plan 61086, Part of lot 113 on Deposited Plan 20587 and Part of Lot 114 on Plan 48295

Prescribed premises category description **(Schedule 1, *Environmental Protection Regulations 1987*)**	**Assessed design capacity**
Category 46: Bauxite Refining, premises (other than premises within paragraph (b) of category 5) on which alumina is produced from bauxite refining	*2,409,000 tonnes per year (smelter grade alumina equivalent)*

This works approval is granted to the works approval holder, subject to the attached conditions, on 5 February 2026, by:

Melissa Chamberlain

Digitally signed by Melissa Chamberlain
Date: 2026.02.05 17:07:25 +08'00'

Melissa Chamberlain
MANAGER PROCESS INDUSTRIES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Works approval history

Date	Reference number	Summary of changes
05/02/2026	W3105/2025/1	Works approval granted.

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 install the infrastructure and equipment;

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

(c) at the corresponding infrastructure location;

as set out in Table 1: Design and construction /installation requirements.

Table 1: Design and construction /installation requirements

	Infrastructure	Design and construction requirements	Infrastructure location
1.	Water treatment plant consisting of: BOC System Clarifier system Media filter system Ultra filter system Centrifuge system Reverse osmosis system High pressure reverse osmosis system Ultra high pressure reverse osmosis system Polishing reverse osmosis system Reverse osmosis permeate system Service water system Clean-in-place system Final product and brine tanks	a) Water treatment plant to be constructed on a compacted hardstand within a clay and PVC lined RSA. b) Tanks containing untreated water or brine must be fitted with low, high and high-high level alarms. c) Tanks containing untreated water or brine must be fitted with automated shutdown controls when low level (loss of containment) is detected. d) Tanks and modules containing untreated water, brine or chemicals must be fitted with overflow collection system that discharges to the ROWS pond. e) All chemical storage tanks must be double skinned or bunded. f) Neutralisation system consisting of: • CO2 dosing systems • Neutralisation reactors • CIP skid and tank g) Clarifier system consisting of: • Coagulation tanks • Lamella clarifiers • Backwash collection tank • Backwash coagulation tanks • Backwash lamella clarifiers • Backwash clarifier product tank h) Media filter system consisting of:	As shown in Schedule 1 Figure 1 and Figure 3

	Infrastructure	Design and construction requirements	Infrastructure location
		• Media filtration feed tanks • Media filtration units • Media filtration backwash tank i) Ultra filter system consisting of • Ultra filtration units • Ultra filtration filtrate tanks j) Centrifuge system consisting of: • Centrifuge feed tanks • Decant centrifuge units • Centrifuge centrate tanks k) Brackish water reverse osmosis system consisting of: • Reverse osmosis units • Brine tanks l) High pressure reverse osmosis system consisting of: • High pressure reverse osmosis units • Brine tanks m) Ultra high pressure reverse osmosis system consisting of: • Ultra high pressure reverse osmosis units n) Degassing and polishing reverse osmosis system consisting of: • Degasser unit • Feed tank • Polishing reverse osmosis units o) Service water system consisting of: • Service/Utility water tanks p) Clean-in-place system consisting of: • CIP skids and tanks q) Dosing infrastructure installed on concrete pads consisting of: • Feed chemical stations • Dosing tanks • Flocculant make-up skids • Flocculant holding tanks • Bunded truck loading areas r) Unloading of flocculants and chemicals must	

	Infrastructure	Design and construction requirements	Infrastructure location
		occur on a concrete pad s) Final product and brine tank farm consisting of: • Final brine tank • Final product tank t) All chemical storage areas must be constructed in accordance with AS3780.	
2.	Pipework including: Feed water pipelines Brine pipelines Treated water Return water and Centrifuge cake pipelines	a) New pipelines conveying feed water, brine, return water and centrifuge cake must be: • Installed above ground or within a culvert below ground where pipelines intersect roads or where areas require vehicle access; and • Be pressure/leak tested during construction.	As shown in Schedule 1 Figure 2.
3.	Centrifuge cake disposal cells	Must be located in RSA L within composite clay and PVC lined area. Stormwater and seepage water from RSA L must direct to perimeter drainage or underwater drainage for containment.	As shown in Schedule 1 Figure 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:

(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 person 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;

(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

4. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1, where the Environmental Compliance Report as required by condition 2 has been submitted by the works approval holder for that item of infrastructure

5. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 6 (as applicable):

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 1 for that item of infrastructure; or

(b) until such time as 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 period specified in condition 5(a).

Time limited operations requirements and emission limits

6. 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 location	Operational requirement	Infrastructure location
Wastewater treatment plant	All treated water, backwash water and off-spec water must be returned to the lined Rows pond for storage or reprocessing, unless approval for alternative discharge or reuse is granted in accordance with Part V of the Environmental Protection Act 1986. All brine water must be transferred to the lined Lake Water Pond for storage or subsequent reprocessing.	As shown in Schedule 1 Figure 2
Pipelines	Pipelines installed outside of lined areas for conveying feed water, brine and return water must be inspected daily for leaks.	
RSA L centrifuge cake	Centrifuge cake to be conveyed by enclosed pipelines for disposal at RSA L.	
ROWS Pond	Maintain minimum freeboard of 500 mm	
Lake Water Pond		
Cooling Pond		
L Oxalate Pond		

Monitoring during time limited operations

Noise monitoring

7. Within 30 days of the commencement of operation of the items of infrastructure specified in Table 1, the Licensee must retain the services of a person qualified and experienced in the area of environmental noise assessment and who by their qualifications and experience is eligible to hold membership of the Australian Acoustical Society or the Australian Association of Acoustical Consultants to:

(a) investigate the nature and extent of noise emissions from the premises, including if the noise is perceptible as tonal at the nearest receptors;

(b) assess in accordance with the methodology required in the Environmental Protection (Noise) Regulations 1997, the compliance of the noise emissions from the premises, against the relevant assigned levels specified in those Regulations; and

(c) compile and submit to the Licensee within 90 days of the commencement of operation of the items of infrastructure specified in Table 1, a report in accordance with condition 8.

8. A report prepared pursuant to condition 7(c) is to include:

(a) a description of the methods used for monitoring and/or modelling of noise emissions from the premises;

(b) details and the results of the investigation undertaken pursuant to condition 7(a);

(c) details and results of the assessment of the noise emissions from the premises, against the relevant assigned levels in the Environmental Protection (Noise) Regulations 1997 undertaken pursuant to condition 7(b); and

(d) an assessment of noise levels against the most recent previous noise assessment.

9. The Licensee must submit to the CEO the report prepared pursuant to condition 7(c) within 14 calendar days of receiving it.

10. Where an assessment pursuant to condition 7(b) indicates that noise emissions do not comply with the relevant assigned levels in the Environmental Protection (Noise) Regulations 1997, the Licensee must:

(a) within 30 days of receiving an assessment report pursuant to condition 7(c) prepare a plan to ensure the undertaking of the premises activities will no longer lead to any contravention of the Environmental Protection (Noise) Regulations 1997; and

(b) provide to the CEO a copy of the plan prepared pursuant to condition 10(a) within 14 days of its preparation.

General monitoring

11. The Works Approval Holder must 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;

Process Monitoring

12. The Works Approval Holder must undertake the monitoring in Table 6 and 7

according to the specifications in those tables.

Table 6: Process monitoring

Process description	Parameter	Unit	Frequency	Method
Volume of contaminated water treated	Volume	m^3	Weekly	None specified
Volume of treated process water transferred back to ROWS Pond				
Volume of brine transferred to Lake Water Pond				
Weight of centrifuge cake discharged to RSA L	Weight	tonnes		

Table 7: Process monitoring - water quality

Discharge point	Parameter	Frequency	Averaging Period	Unit	Method
Product water pipeline prior to discharge to ROWS Pond	Aluminium	Weekly	Spot sample	mg/L	As per condition 11
	Arsenic			mg/L	
	Boron			mg/L	
	Calcium			mg/L	
	Chloride			mg/L	
	Fluoride			mg/L	
	Gallium			mg/L	
	Magnesium			mg/L	
	Molybdenum			mg/L	
	Nickel			mg/L	
	Selenium			mg/L	
	Sodium			mg/L	
	Sulphate			mg/L	
	TDS			mg/L	
	Tin			mg/L	
	Vanadium			mg/L	

	EC			µS/cm	
	pH			pH Units	

Compliance reporting

14. 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.

15. The works approval holder must ensure the report required by condition 14 includes the following:

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

(b) a summary of wastewater water treatment results obtained during time limited operations under condition 12;

(c) a summary of the environmental performance of all infrastructure as constructed or installed (as applicable), which includes records detailing the results of monitoring undertaken according to the specifications in Condition 12;

(d) a review of performance and compliance against the conditions of the works approval; 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 measure

Records and reporting (general)

16. 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 related to the works approval activites:

(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.

17. 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 6;

(c) monitoring programmes undertaken in accordance with conditions 7 and 12; and

(d) complaints received under condition 16.

18. The books specified under condition 17 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 3 have the meanings defined.

Table 3: Definitions

Term	Definition
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).
premises	the premises to which this works approval applies, as specified at the front of this works approval 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.
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.
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.

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

Infrastructure map

The prescribed premises proposed infrastructure location is shown in the map below (Figure 2)

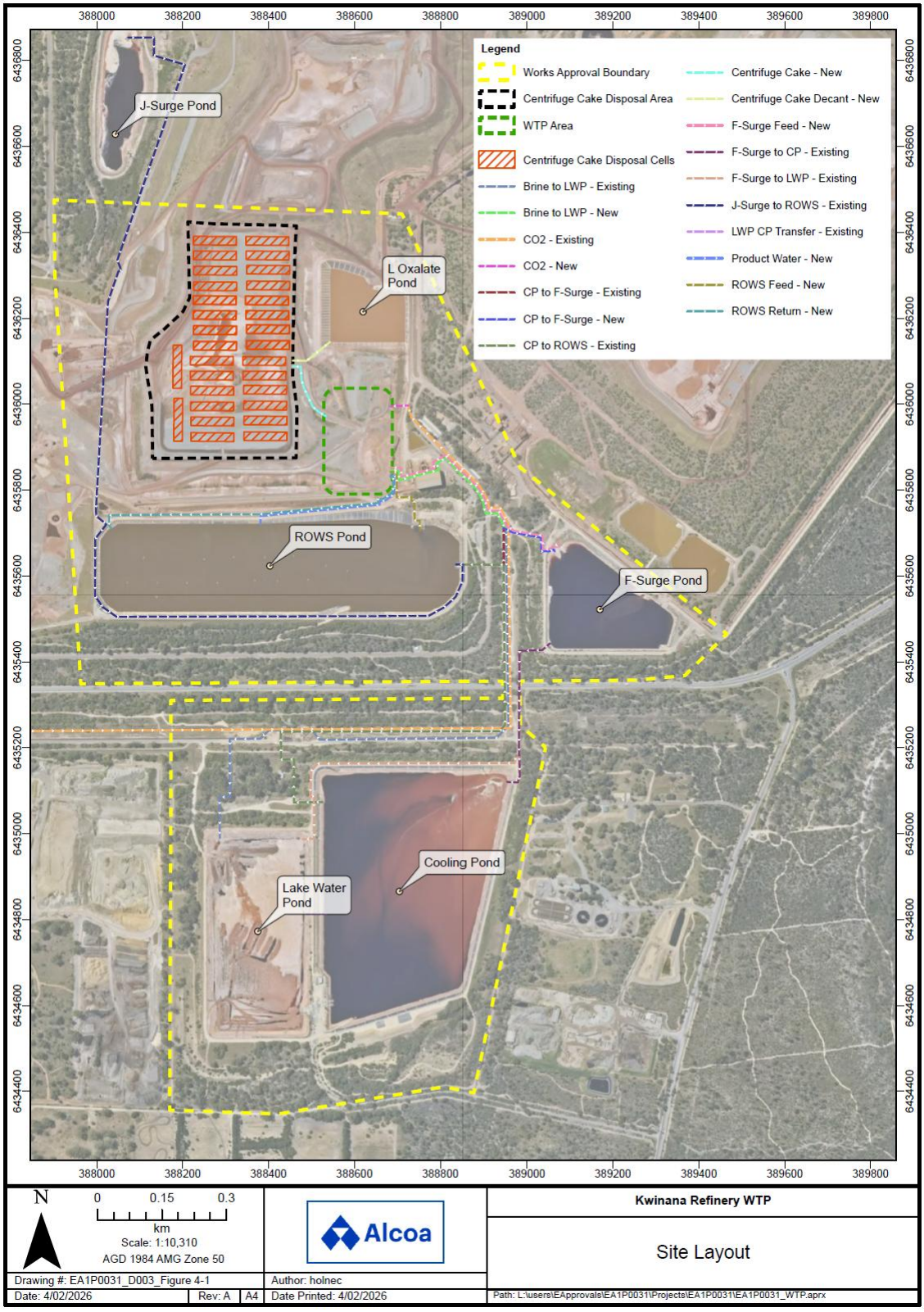
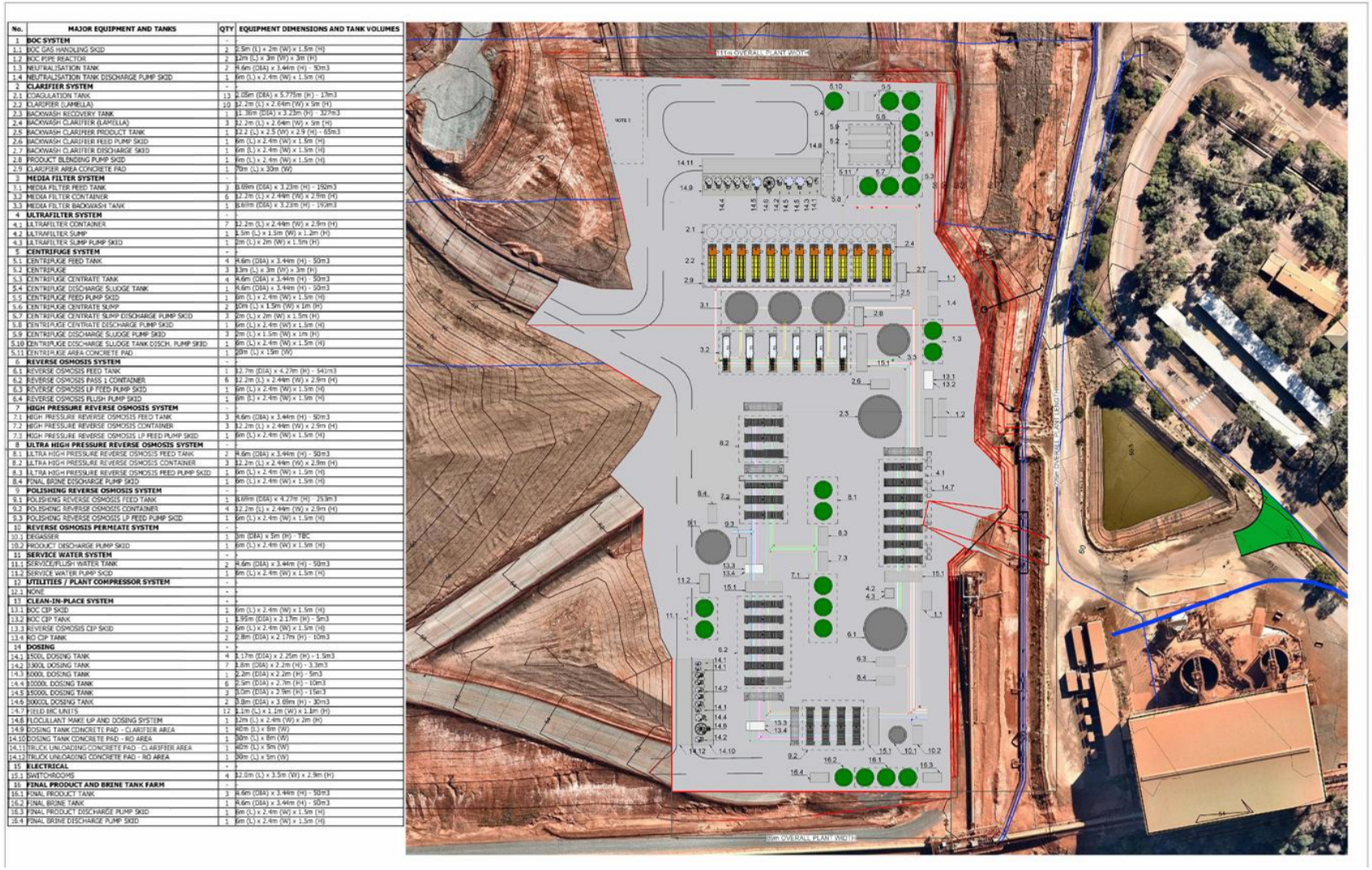


Figure 2: Map of proposed infrastructure location

The detailed proposed infrastructure location is shown in the figure below (Figure 3)



No.	MAJOR EQUIPMENT AND TANKS	QTY	EQUIPMENT DIMENSIONS AND TANK VOLUMES
1	**BOC SYSTEM**	-	-
1.1	BOC GAS HANDLING SKID	2	2.5m (L) x 2m (W) x 1.5m (H)
1.2	BOC PIPE REACTOR	2	12m (L) x 3m (W) x 3m (H)
1.3	NEUTRALISATION TANK	2	4.6m (DIA) x 3.44m (H) - 50m3
1.4	NEUTRALISATION TANK DISCHARGE PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
2	**CLARIFIER SYSTEM**	-	-
2.1	COAGULATION TANK	13	2.05m (DIA) x 5.775m (H) - 17m3
2.2	CLARIFIER (LAMELLA)	10	12.2m (L) x 2.64m (W) x 5m (H)
2.3	BACKWASH RECOVERY TANK	1	11.36m (DIA) x 3.23m (H) - 327m3
2.4	BACKWASH CLARIFIER (LAMELLA)	3	12.2m (L) x 2.64m (W) x 5m (H)
2.5	BACKWASH CLARIFIER PRODUCT TANK	1	12.2 (L) x 2.5 (W) x 2.9 (H) - 65m3
2.6	BACKWASH CLARIFIER FEED PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
2.7	BACKWASH CLARIFIER DISCHARGE SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
2.8	PRODUCT BLENDING PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
2.9	CLARIFIER AREA CONCRETE PAD	1	70m (L) x 30m (W)
3	**MEDIA FILTER SYSTEM**	-	-
3.1	MEDIA FILTER FEED TANK	3	8.69m (DIA) x 3.23m (H) - 192m3
3.2	MEDIA FILTER CONTAINER	6	12.2m (L) x 2.44m (W) x 2.9m (H)
3.3	MEDIA FILTER BACKWASH TANK	1	8.69m (DIA) x 3.23m (H) - 192m3
4	**ULTRAFILTER SYSTEM**	-	-
4.1	ULTRAFILTER CONTAINER	7	12.2m (L) x 2.44m (W) x 2.9m (H)
4.2	ULTRAFILTER SUMP	1	1.5m (L) x 1.5m (W) x 1.2m (H)
4.3	ULTRAFILTER SUMP PUMP SKID	1	2m (L) x 2m (W) x 1.5m (H)
5	**CENTRIFUGE SYSTEM**	-	-
5.1	CENTRIFUGE FEED TANK	4	4.6m (DIA) x 3.44m (H) - 50m3
5.2	CENTRIFUGE	3	3m (L) x 3m (W) x 3m (H)
5.3	CENTRIFUGE CENTRATE TANK	4	4.6m (DIA) x 3.44m (H) - 50m3
5.4	CENTRIFUGE DISCHARGE SLUDGE TANK	1	4.6m (DIA) x 3.44m (H) - 50m3
5.5	CENTRIFUGE FEED PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
5.6	CENTRIFUGE CENTRATE SUMP	2	10m (L) x 1.5m (W) x 1m (H)
5.7	CENTRIFUGE CENTRATE SUMP DISCHARGE PUMP SKID	3	2m (L) x 2m (W) x 1.5m (H)
5.8	CENTRIFUGE CENTRATE DISCHARGE PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
5.9	CENTRIFUGE DISCHARGE SLUDGE PUMP SKID	3	2m (L) x 1.5m (W) x 1m (H)
5.10	CENTRIFUGE DISCHARGE SLUDGE TANK DISCH. PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
5.11	CENTRIFUGE AREA CONCRETE PAD	1	20m (L) x 15m (W)
6	**REVERSE OSMOSIS SYSTEM**	-	-
6.1	REVERSE OSMOSIS FEED TANK	1	12.7m (DIA) x 4.27m (H) - 541m3
6.2	REVERSE OSMOSIS PASS 1 CONTAINER	6	12.2m (L) x 2.44m (W) x 2.9m (H)
6.3	REVERSE OSMOSIS LP FEED PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
6.4	REVERSE OSMOSIS FLUSH PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
7	**HIGH PRESSURE REVERSE OSMOSIS SYSTEM**	-	-
7.1	HIGH PRESSURE REVERSE OSMOSIS FEED TANK	3	4.6m (DIA) x 3.44m (H) - 50m3
7.2	HIGH PRESSURE REVERSE OSMOSIS CONTAINER	3	12.2m (L) x 2.44m (W) x 2.9m (H)
7.3	HIGH PRESSURE REVERSE OSMOSIS LP FEED PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
8	**ULTRA HIGH PRESSURE REVERSE OSMOSIS SYSTEM**	-	-
8.1	ULTRA HIGH PRESSURE REVERSE OSMOSIS FEED TANK	2	4.6m (DIA) x 3.44m (H) - 50m3
8.2	ULTRA HIGH PRESSURE REVERSE OSMOSIS CONTAINER	3	12.2m (L) x 2.44m (W) x 2.9m (H)
8.3	ULTRA HIGH PRESSURE REVERSE OSMOSIS FEED PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
8.4	FINAL BRINE DISCHARGE PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
9	**POLISHING REVERSE OSMOSIS SYSTEM**	-	-
9.1	POLISHING REVERSE OSMOSIS FEED TANK	1	8.69m (DIA) x 4.27m (H) - 253m3
9.2	POLISHING REVERSE OSMOSIS CONTAINER	4	12.2m (L) x 2.44m (W) x 2.9m (H)
9.3	POLISHING REVERSE OSMOSIS LP FEED PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
10	**REVERSE OSMOSIS PERMEATE SYSTEM**	-	-
10.1	DEGASSER	1	3m (DIA) x 5m (H) - TBC
10.2	PRODUCT DISCHARGE PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
11	**SERVICE WATER SYSTEM**	-	-
11.1	SERVICE/FLUSH WATER TANK	2	4.6m (DIA) x 3.44m (H) - 50m3
11.2	SERVICE WATER PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
12	**UTILITIES / PLANT COMPRESSOR SYSTEM**	-	-
12.1	NONE	-	-
13	**CLEAN-IN-PLACE SYSTEM**	-	-
13.1	BOC CIP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
13.2	BOC CIP TANK	1	1.95m (DIA) x 2.17m (H) - 5m3
13.3	REVERSE OSMOSIS CIP SKID	2	6m (L) x 2.4m (W) x 1.5m (H)
13.4	RO CIP TANK	2	2.8m (DIA) x 2.17m (H) - 10m3
14	**DOSING**	-	-
14.1	1500L DOSING TANK	4	1.17m (DIA) x 2.25m (H) - 1.5m3
14.2	3300L DOSING TANK	7	1.6m (DIA) x 2.2m (H) - 3.3m3
14.3	5000L DOSING TANK	1	2.2m (DIA) x 2.2m (H) - 5m3
14.4	10000L DOSING TANK	6	2.5m (DIA) x 2.7m (H) - 10m3
14.5	15000L DOSING TANK	3	3.0m (DIA) x 2.9m (H) - 15m3
14.6	30000L DOSING TANK	2	3.8m (DIA) x 3.69m (H) - 30m3
14.7	FIELD MIC UNITS	12	1.2m (L) x 1.1m (W) x 1.8m (H)
14.8	FLOCULANT MAKE UP AND DOSING SYSTEM	1	3.2m (L) x 2.4m (W) x 2m (H)
14.9	DOSING TANK CONCRETE PAD - CLARIFIER AREA	1	40m (L) x 8m (W)
14.10	DOSING TANK CONCRETE PAD - RO AREA	1	30m (L) x 8m (W)
14.11	TRUCK UNLOADING CONCRETE PAD - CLARIFIER AREA	1	40m (L) x 5m (W)
14.12	TRUCK UNLOADING CONCRETE PAD - RO AREA	1	30m (L) x 5m (W)
15	**ELECTRICAL**	-	-
15.1	SWITCHROOMS	4	12.0m (L) x 3.5m (W) x 2.9m (H)
16	**FINAL PRODUCT AND BRINE TANK FARM**	-	-
16.1	FINAL PRODUCT TANK	3	4.6m (DIA) x 3.44m (H) - 50m3
16.2	FINAL BRINE TANK	1	4.6m (DIA) x 3.44m (H) - 50m3
16.3	FINAL PRODUCT DISCHARGE PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)
16.4	FINAL BRINE DISCHARGE PUMP SKID	1	6m (L) x 2.4m (W) x 1.5m (H)

Figure 3: Proposed infrastructure arrangement

Schedule 2: Premises boundary

The corners of the premises boundary are the coordinates listed in Table 4.

Table 4: Premises boundary coordinates (GDA2020)

	Easting	Northing	Zone
1.	389123.2	6435506	50
2.	389123.8	6435403	50
3.	389182.9	6435351	50
4.	389016	6434547	50
5.	388949.9	6434561	50
6.	388562.5	6434498	50
7.	388309.7	6434507	50
8.	388312.6	6435329	50
9.	388312.7	6435337	50
10.	388312.1	6435461	50
11.	389078.4	6435465	50
12.	389083.5	6435466	50
13.	389083.3	6435505	50
14.	388102.8	6435499	50
15.	388042.3	6436449	50
16.	388042	6436470	50
17.	388040.7	6436625	50
18.	388850.7	6436593	50
19.	389123	6436004	50
20.	389604.9	6435615	50
21.	389507.4	6435519	50
22.	389393	6435508	50
23.	389123.2	6435506	50