Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L5089/1989/9
Licence holder	Kwinana Chlor Alkali Pty Ltd
ACN	130 483 395
Registered business address	Corner of Patterson & Kwinana Beach, Roads KWINANA BEACH WA 6167
Instrument number	INS-0001177
Duration	14/07/2011 to 26/07/2027
Date of issue	14/07/2011
Date of amendment	28/05/2026
Premises details	Kwinana Chlor Alkali Pty Ltd Mason Road KWINANA BEACH WA 6167 Legal description - Part Lot 22 on Diagram 88339 as defined by the coordinates in Schedule 2 of this licence.

Prescribed premises category description **(Schedule 1, *Environmental Protection Regulations 1987*)**	**Assessed production / design capacity**
Category 31: Chemical Manufacturing	90,000 tonnes per year

This licence is granted to the licence holder, subject to the attached conditions, on 28 May 2026, by:

Melissa Chamberlain

Digitally signed by Melissa Chamberlain
Date: 2026.05.28 13:03:34 +08'00'

Manager, Process Industries

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

Licence history

Date	Reference number	Summary of changes
14/07/2011	L5089/1989/9	Licence granted.
29/04/2016	L5089/1989/9	Bulk Amendment of Licence Expiry Dates
16/05/2022	L5089/1989/9	Bulk Amendment. of Licence Reporting Requirements
28/05/2026	L5089/1989/9	Amendment authorising the installation of additional chemical storage tanks and reformat the licence to the current template.

Interpretation

In this licence:

(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 licence:

  (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 licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

Licence conditions

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

Infrastructure and equipment

1. The licence holder must ensure that the site infrastructure and equipment listed in Table 1 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 1.

Table 1: Infrastructure and equipment requirements

	Site infrastructure and equipment	Operational requirement	Infrastructure location
1.	Lurgi processing plant comprising of: • Electrolysis system • Catholyte system • Chlorine gas drying and compression • Chlorine liquefication & storage • Sodium hypochlorite production – Chlorine absorption tower	None specified	Labelled Lurgi Plant in Schedule 1: Figure 2.
2.	Lurgi chlorine gas export system and pipeline	None specified	Not depicted
3.	Lurgi effluent sump	None specified	Not depicted
4.	Conve processing plant comprising of: • Electrolysis system • Brine purification system • Catholyte system • Chlorine gas drying and compression • Sodium hypochlorite production – Chlorine absorption tower • HCl synthesis unit	(a) HCl synthesis unit must maintain a controlled hydrogen to chlorine ratio such that hydrogen over the stoichiometric demand, ensuring no free chlorine is present in the vent gas. (b) HCl synthesis unit must be operated so that any over-pressure caused by an internal ignition will invoke an automatic shutdown and isolation of the chlorine and hydrogen feeds.	Labelled Conve Plant in Schedule 1: Figure 2.
5.	Conve chlorine gas export system and pipeline	None specified	Not depicted
6.	Conve effluent sump	None specified	Not depicted

Emissions and discharges

2. The licence holder must ensure that the emissions specified in Table 2, are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 2: Authorised discharge points

Emission	Discharge point	Discharge point location as shown in Schedule 1: Figure 2
Cl_2	Lurgi sodium hypochlorite production - Chlorine absorption tower	A1
	Conve sodium hypochlorite production - Chlorine absorption tower	A3
H_2	Lurgi hydrogen stack	A2
	Conve hydrogen stack	A4
HCl	Conve HCl synthesis unit stack	A5

3. The licence holder must ensure that emissions from the discharge point listed in Table 3 for the corresponding parameter do not exceed the corresponding limit when monitored in accordance with condition 4.

Table 3: Emission and discharge limits

Discharge point	Discharge point location as shown in Schedule 1: Figure 2	Parameter	Limit
Lurgi sodium hypochlorite production - Chlorine absorption tower	A1	Cl_2	5 ppm
Conve sodium hypochlorite production - Chlorine absorption tower	A3		

Monitoring

Emissions to air

4. The licence holder must monitor emissions in accordance with the requirements specified in Table 4 and record the results of all such monitoring.

Table 4: Emissions and discharge monitoring

Discharge point	Monitoring location	Parameter	Frequency	Averaging period	Unit	Method
Lurgi sodium hypochlorite production - Chlorine absorption tower	A1	Cl_2	Continuous	60 mins	ppm	In accordance with the CEMS Code
Conve sodium hypochlorite production - Chlorine absorption tower	A3					

Groundwater

5. The licence holder must monitor groundwater for concentrations of the identified parameter(s) in accordance with Table 5 and record the results of all such monitoring.

Table 5: Groundwater monitoring

Monitoring well location as shown in Schedule 1: Figure 2	Parameter	Unit	Frequency	Method	
				Sampling	Analysis
MB02 MB03 MB04 MB05R MB06	pH	pH units	quarterly	Spot sample, in accordance with AS/NZS 5667.1:1998	NATA accredited laboratory
	Conductivity	mS/m			

Process Monitoring

6. The Licence Holder must undertake process monitoring of the identified parameter(s) in accordance with Table 6 and record the results of all such monitoring.

Table 6: Process monitoring

Location	Process Description	Parameter	Units	Frequency
Lurgi Plant	Hypo reactor	Caustic flow rate	L/s m^3/ day	Continuous
	Hypo scrubber			
	Caustic/ hypo tank	Free hydroxide	g/L	12-hourly
Conve Plant	Hypo reactor	Caustic flow rate	L/s m^3/ day	Continuous
	Hypo scrubber			
	Caustic/ hypo tank	Free hydroxide	g/L	12-hourly
	HCl synthesis unit	Water flow rate	L/s m^3/ day	Continuous (when in operation)

Records and reporting

Records

7. The licence holder must record the following information in relation to complaints received by the licence 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 licence holder to investigate or respond to any complaint.

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

(a) the calculation of fees payable in respect of this licence;

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

(c) monitoring programmes undertaken in accordance with conditions 4 and 5 of this licence; and

(d) complaints received under condition 7 of this licence.

9. The books specified under condition 8 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 licence holder for the duration of the licence; and

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

Notification

10. The licence holder must notify the CEO in writing within 24 hours of becoming aware of an exceedance of any measurement which indicates that any discharge limit specified in this licence has been exceeded.

11. The licence holder must submit a report to the CEO on its investigations into any exceedance reported under condition 10 within 7 days of that exceedance, and it shall include, but not be limited to:

(a) the date, time, and reason for the exceedance;

(b) the period over which the exceedance occurred;

(c) the nature and extent of the discharge over that period and potential or known environmental consequences;

(d) corrective action taken or planned to mitigate adverse environmental consequences; and

(e) corrective action taken or planned to prevent a recurrence of the exceedance.

Reporting

12. The licence holder must:

(a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period, and

(b) prepare and submit to the CEO an Annual Audit Compliance Report in the approved form by 1 July each year.

13. The licence holder must:

(a) prepare an Environmental Report that provides information in accordance with Table 7 for the preceding two annual periods, and

(b) submit that Environmental Report to the CEO by 1 July 2023 and biennially thereafter.

Table 7: Environmental reporting requirements

Condition	Requirement
Condition 4 Air emission monitoring	Tabulated monitoring data results and time-series graphs in Microsoft Excel format for each monitoring location showing concentrations of all parameters over a minimum three year period (where sufficient data allows).

Condition	Requirement
	An interpretation of the monitoring data including comparison to historical trends and emission limits (where applicable).
Condition 5 Groundwater monitoring	Tabulated monitoring data results and time-series graphs in Microsoft Excel format for each monitoring location showing concentrations of all parameters over a minimum three year period (where sufficient data allows).
Condition 6 Process monitoring	Summary of monitoring data results for each monitoring location.

Works

14. The licence holder must construct and/or install the infrastructure listed in Table 8, in accordance with;

(a) the corresponding design and construction requirement / installation requirement; and

(b) at the corresponding infrastructure location; and

as set out in Table 8.

Table 8: Design and construction installation requirements

Infrastructure	Design and construction requirement / installation requirement	Infrastructure location
Four hydrochloric acid (HCl) storage tanks and bund	(a) Tanks must be constructed from fibre reinforced plastic (b) Tanks must be manufactured in accordance with the British Standard *BS EN 13121 GRP tanks and vessels for use above ground* (c) Tanks, containment bund and connections must be installed in accordance with *Australian Standard AS 3780:2023 The storage and handling of corrosive substances.* (d) Each tank must have a maximum capacity up to 125m^3 (e) Each tank must be equipped with an automatic shut off valve managed via a DCS (f) Vents from all storage tanks must be connected to existing Lurgi scrubber (A1) (g) Any unsealed areas must be wet down during earthworks	As per Schedule 1 Figure 3
Monitoring bore MB05R	(a) Must be designed and constructed in accordance with *ASTM D5092/D5092M-16: Standard practice for design and installation of groundwater monitoring bores*. (b) Well screens must target the part, or parts, of the aquifer most likely to be affected by contamination. (c) Soil samples must be collected and logged during the installation of the monitoring wells. (d) A record of the geology encountered during drilling must be described and classified in accordance with the Australian Standard Geotechnical Site Investigations AS1726.	Labelled MB05R as per Schedule 1: Figure 2

Infrastructure	Design and construction requirement / installation requirement	Infrastructure location
	(e) Any observations of staining / odours or other indications of contamination must be included in the bore log. (f) Well construction details must be documented within a well construction log to demonstrate compliance with *ASTM D5092/D5092M-16*. The construction logs shall include elevations of the top of casing position to be used as the reference point for water-level measurements, and the elevations of the ground surface protective installations. (g) Wells must be developed after drilling to remove fine sand, silt, clay and any drilling mud residues from around the well screen to ensure the hydraulic functioning of the well. A detailed record should be kept of well development activities and included in the well construction log. (h) The vertical (top of casing) and horizontal position of each monitoring well must be surveyed and subsequently mapped by a suitably qualified surveyor.	

15. The works approval holder must within 30 calendar days of an item of infrastructure or equipment required by condition 14 being constructed and/or installed:

(a) undertake an audit of their compliance with the requirements of condition 14 and

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

16. The Environmental Compliance Report required by condition 15, must include as a minimum the following:

(a) certification by a suitably qualified engineer that the items of infrastructure as specified in condition 14, have been constructed in accordance with the relevant requirements specified in condition 14;

(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 14; and

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

Definitions

In this licence, the terms in Table 9 have the meanings defined.

Table 9: Definitions

Term	Definition
ASTM D5092/D5092M-16	means ASTM D5092/D5092M-16: *Standard practice for design and installation of groundwater monitoring bores*.
AS 1726	means Australian Standard AS *Geotechnical site investigations*
AS/NZS 5667.1:1998	means *AS/NZS 5667.1:1998 Water quality - Sampling, Part 1: Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples*
ACN	Australian Company Number
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates are available on the Department's website).
annual period	a 12 month period commencing from 1 May until 30 April of the immediately following year.
biennially	means every two years.
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer of the department. "submit to / notify the CEO" (or similar), means either: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
CEMS Code	means the current version of the Continuous Emission Monitoring System (CEMS) Code for Stationary Source Air Emissions, Department of Environment & Conservation, Government of Western Australia
DCS	Distribution Control System
department; DWER	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
discharge	has the same meaning given to that term under the EP Act.

Term	Definition
emission	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
licence	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within.
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
NATA	means the National Association of Testin Authorities.
premises	refers to 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 licence.
Suitably qualified engineer	means a person who: a) holds a Bachelor of Engineering degree recognised by Engineers Australia; and b) has a minimum of five years of experience working in a relevant engineering field. or is otherwise approved in writing by the CEO to act in this capacity.
prescribed premises	has the same meaning given to that term under the EP Act.
quarterly	means each 3 calendar month period commencing on 1 January, 1 April, 1 July, and 1 October each year.
waste	has the same meaning given to that term under the EP Act.

END OF CONDITIONS

Schedule 1: Maps

Premises map

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

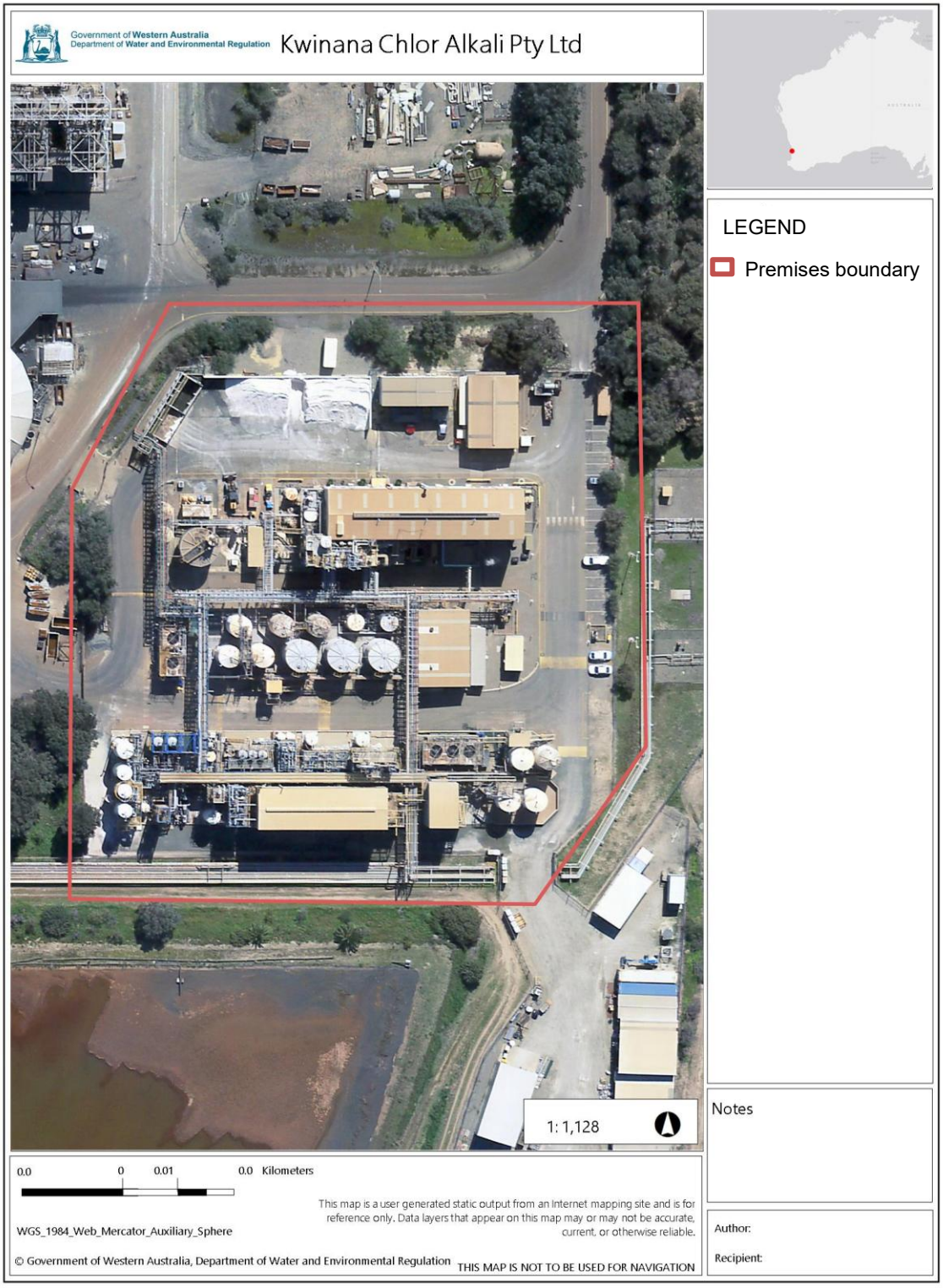
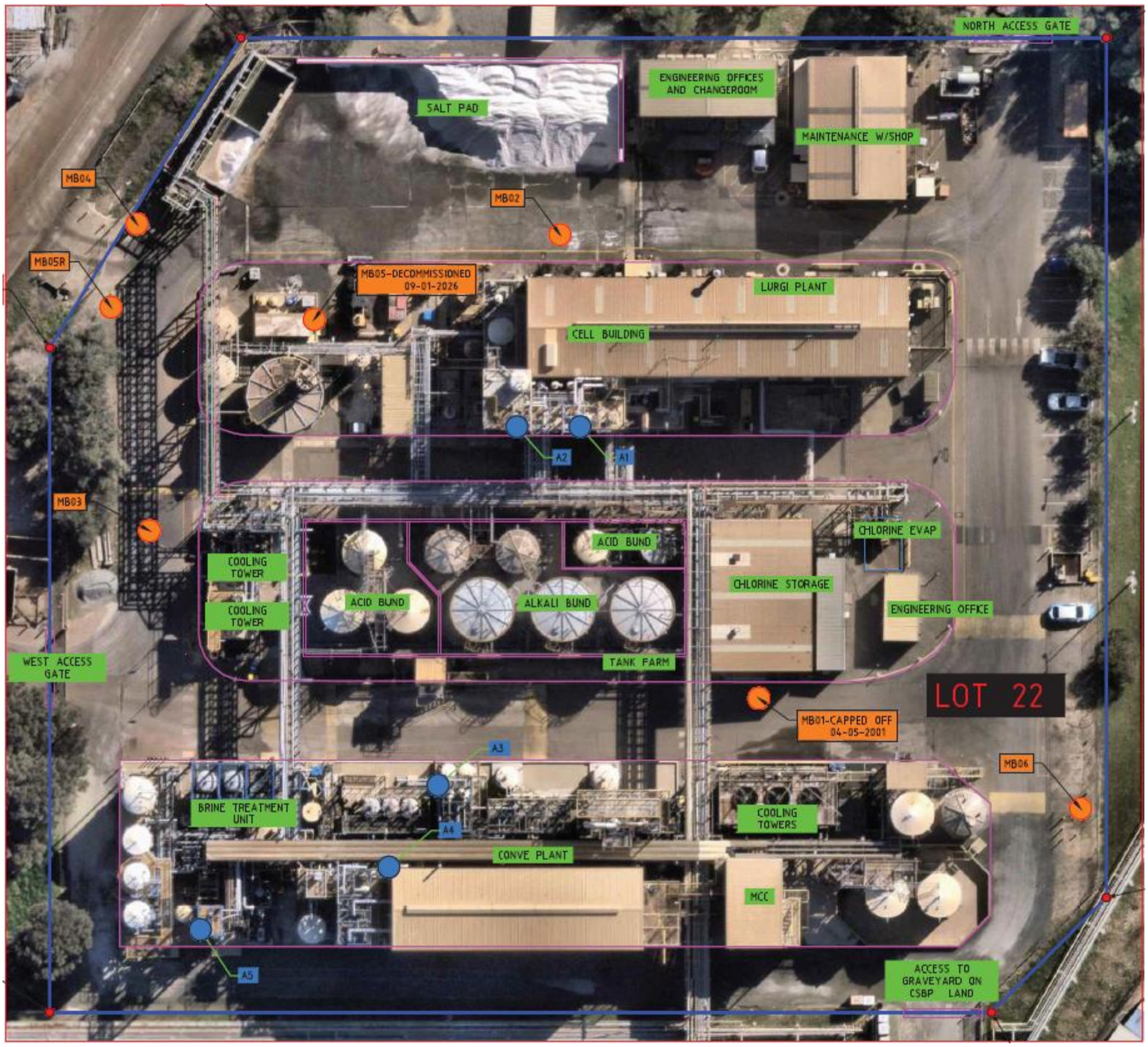


Figure 1: Map of the boundary of the prescribed premises

Map of discharge and monitoring locations



LEGEND

BOUNDARY

BORE

EMISSION POINT

KEY INFRASTRUCTURE

N
W E
S

BORE COORDINATES (PCG94)		
MONITORING SITE DESIGNATION	EASTING	NORTHING
MB01 CAPPED OFF 04-05-2001	46113.9556	232505.6637
MB02	46093.1548	232554.1992
MB03	46050.2808	232523.2134
MB04	46048.9031	232555.3223
MB05 -DECOMMISSIONED 09-01-2026	46067.4454	232545.3147
MB05R	46046.1855	232546.6031
MB06	46147.6393	232494.1456

EMISSION POINTS COORDINATES (PCG94)			
EMISSION POINT REF	EMISSION POINT & SOURCE	EASTING	NORTHING
A1	LURGI SCRUBBER VENT	46095.2425	232534.0878
A2	LURGI HYDROGEN STACK	46088.6387	232534.0878
A3	CONVE SCRUBBER VENT	46080.3950	232496.5642
A4	CONVE HYDROGEN STACK	46075.2565	232487.9998
A5	CONVE HCl SYNTHESIS VENT	46055.5344	232481.4587

Figure 2: Map of discharge points and monitoring locations

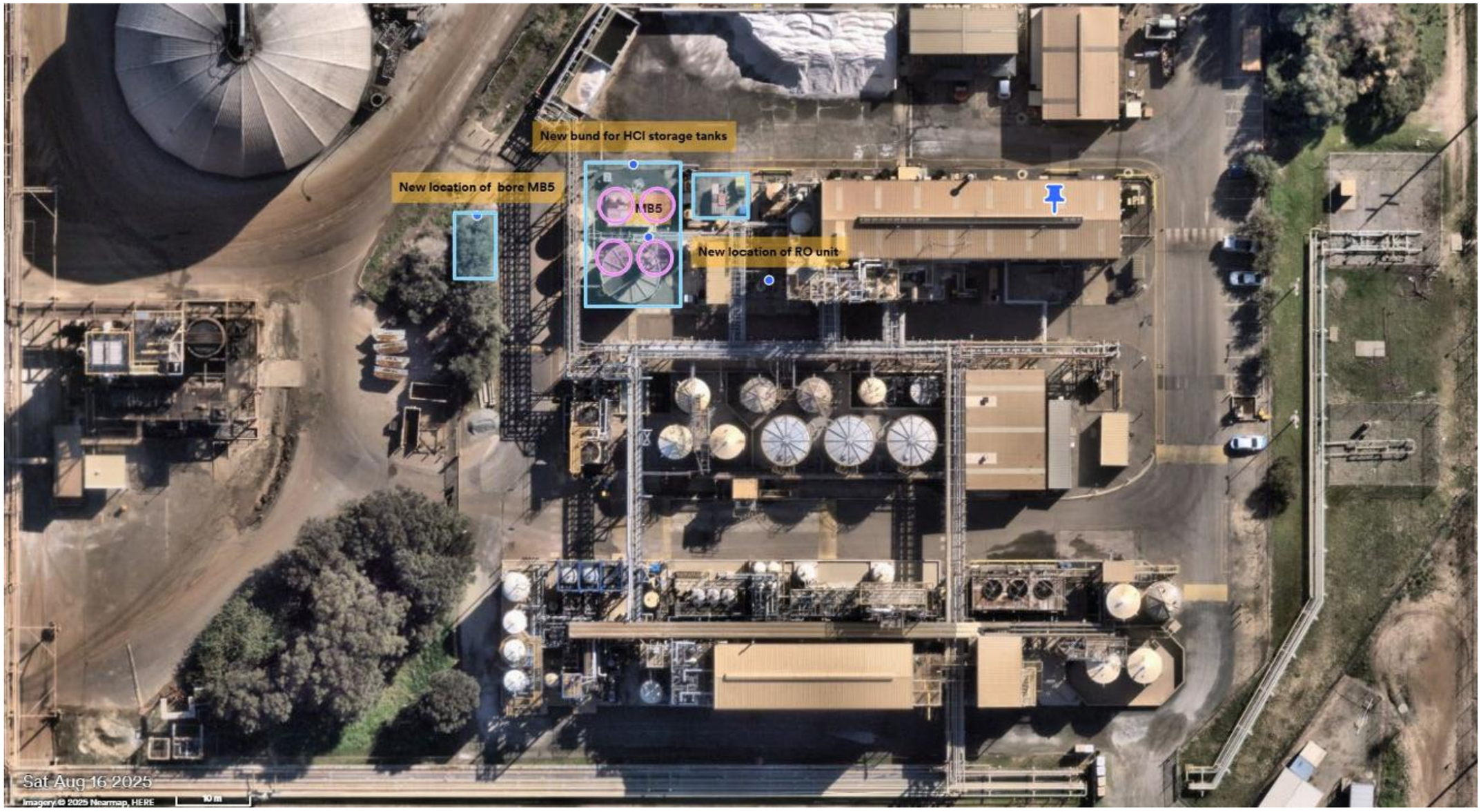


Figure 3: Locations of proposed chemical storage tanks

Schedule 2: Premises boundary

The corners of the premises boundary are the coordinates listed in Table 10.

Table 10: Premises boundary coordinates (PCG94)

	Easting	Northing
1.	46039.7892	232472.7992
2.	46138.2844	232472.7992
3.	46150.2844	232484.7992
4.	46150.2844	232574.7992
5.	46059.7844	232574.7992
6.	46039.7844	232542.3592