



Licence number	L9025/2017/1
Licence holder	Austral Bricks (WA) Pty Ltd
ACN	079 711 603
Registered business address	738-780 Wallgrove Road HORSLEY PARK NSW 2175
DWER file number	DER2017/000089
Duration	18/06/2019 to 17/06/2029
Date of amendment	15/09/2023
Premises details	Cardup Brickworks Lot 101 on Plan 42930 Byford 6122 Lot 21 on Diagram 49238 Nettleton Road Byford 6122 Lot 7 on Diagram 10840, Byford 6122 Lot 51 on Diagram 52746, Kiln Road Byford 6122 Lot 50 on Diagram 52748, Byford 6122 Lot 10 on Diagram 26892, Byford 6122 Lot 12 on Diagram 52677, Kiln Road Byford 6122 Lot 53 on Diagram 4790, Byford 6122 Lot 30 on Plan 404710, Byford 6122

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed production / design capacity
Category 41: Clay bricks or ceramic products manufacturing. Premises on which refractory products, tiles, pipes or pottery are manufactured.	200,000 tonnes per annual period

This licence is granted to the licence holder, subject to the attached conditions, on 15 September 2023, by:

Amine Fisher

A/MANAGER PROCESS INDUSTRIES

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

Licence history

Date	Reference number	Summary of changes
26/11/2010	L6407/1967/9	Licence for ongoing operation of Cardup brickworks ceased to have effect in 1/1/2015 due to non-payment of annual fees. Premises was in care and maintenance and the Licence Holder did not apply for a new licence.
28/01/2016	W5925/2015/1	Works approval issued for the refurbishment of Kiln 3 and associated brick manufacturing infrastructure, including the installation of a cascade lime scrubber.
18/06/2019	L9025/2017/1	New licence issued following the completion of works approved through works approval W5925/2015/1.
17/07/2020	W6401/2020/1	Works approval issued for the installation of an additional batch dryer and associate drying room.
15/09/2023	L9025/2017/1	Licence amendment following completion of works approved through works approval W6401/2020/1 and suspended monitoring requirements during care and maintenance.

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 infrastructure and equipment specified in Column 1 of Table 1 is maintained and operated in accordance with the corresponding operational requirement specified in Column 2 of Table 1

Table 1: Infrastructure and equipment requirements

Column 1	Column 2
Site infrastructure and equipment	Operational requirement
Clay storage stockpiles located on in-situ soils.	Raw materials are to be stored in former excavation area including the clay storage shed as described in Figure 1 of Schedule 1.
Clay grinding sheds	Clay blending activities are to occur in the clay grinding sheds.
2 x Dryers with hot air flues	Air emissions through flues as shown in Figure 2 of Schedule 1.
Gas fired tunnel kiln	<ol style="list-style-type: none"> 1. The Licence Holder must ensure air from the Combustion Zone of the kiln is treated by the Cascade Limestone Scrubber and discharged via the Kiln Exhaust Stack 2. The Cascade Lime Scrubber may be bypassed pursuant to Condition 5.
Cascade limestone scrubber	Maintained in accordance with the manufacturers specifications.
Kiln Exhaust Stack	Not less than 29.5 metres in height
Water catchment, swales and settling ponds	<ol style="list-style-type: none"> 1. Design capacity of 10 year ARI 2 hour rainfall event to be maintained by removal of sediment. 2. Prevent and repair erosion of banks and spillways.
Roads and storage areas	To be swept and wetted down to prevent dust lift off.
Standalone batch dryer/drying room for the drying of solid product only	<p>The temperature of the dryer must be monitored when operating and the dryer must operate at a temperature of no greater than 250 degrees Celsius.</p> <p>The dryer must only be operated with natural gas as a fuel.</p>

Materials handling

2. The licence holder must ensure that dust emissions from any operational, unsealed areas are controlled with water or other dust suppression materials.

Discharges to air

3. 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 set out in Table 2.

Table 2: Authorised discharge points

Emissions	Discharge point	Discharge point location on Schedule 1, Figure 2: Manufacturing area layout
HCl, HF, PM, Total oxides of sulphur (as SO ₂), and Total oxides of nitrogen (as NO ₂)	Kiln Stack S1	S1
	Dryer Stacks S2	S2
	Dryer Stack S3	S3
	Dryer Stack S4	S4

4. In the event the Cascade Scrubber is bypassed for more than 30 consecutive minutes, the licence holder must implement the bypass procedure in Schedule 3 and demonstrate compliance with the emission limits in Table 3

Emission limits

5. 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 6.

Table 3: Discharges to air limits

Discharge Point	Parameter ¹	Averaging Period	Limit ²
Kiln Stack S1	HF	30 minutes minimum	1 g/s
	HCl	30 minutes minimum	200 mg/m ³
	PM	1-hour	50 mg/m ³

Note 1: concentrations are to be reported at STP, corrected to 18% O₂; and
 2: limits do not apply for the first 30 minutes following start-up.

Monitoring of discharges to air

6. The licence holder must monitor discharges to air:
- from the specified discharge point;
 - at the corresponding monitoring location;
 - for the corresponding parameters;
 - at the corresponding frequency;
 - for the corresponding averaging period;
 - in the corresponding units; and
 - using the corresponding method,
- set out in Table 7 in Schedule 2.
7. The licence holder must ensure that sampling required by Condition 6 is undertaken at sampling locations in accordance with the current version of AS 4323.1.
8. The licence holder must ensure that all non-continuous sampling and analysis undertaken required by Condition 6 is undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

Ambient monitoring – Surface Water

9. The licence holder must monitor the surface water:
- for the parameters;
 - at the corresponding monitoring location;
 - in the corresponding unit;
 - at no less than the corresponding frequency;
 - for the corresponding averaging period; and
 - using the corresponding methods,
- set out in Table 4.

Table 4: Ambient Monitoring of Surface Water

Parameter	Monitoring location	Unit	Frequency	Averaging period	Method	
					Sampling	Analysis
pH	CAR01 upstream of discharge point F1, and CAR06 downstream of discharge point A as shown in Figure 3 of Schedule 1	-	During the months of May, June, July and August and at other times when high rainfall events cause the potential for discharge.	Spot sample	AS5667.1 AS5667.6	Field measured parameter
Dissolved oxygen		mg/L				
Total dissolved salts from conductivity		mg/L				
Redox		mV				
Temperature		°C				
Flow		m/s				
Turbidity		NTU				
Total suspended solids (TSS)		mg/L				NATA accredited
Total Petroleum Hydrocarbons (TPH)		mg/L				

Records and reporting

10. The licence holder must, within 7 days of becoming aware of any non-compliance with conditions 1,2,3,4 and 5 of this licence, notify the CEO in writing of that non-compliance and include in that notification the following information:
- which condition was not complied with;
 - the time and date when the non-compliance occurred;

- (c) if any environmental impact occurred as a result of the non-compliance and if so what that impact is and where the impact occurred;
 - (d) the details and result of any investigation undertaken into the cause of the non-compliance;
 - (e) what action has been taken and the date on which it was taken to prevent the non-compliance occurring again; and
 - (f) what action will be taken and the date by which it will be taken to prevent the non-compliance occurring again
- 11.** 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.
- 12.** The licence holder must notify the CEO in writing within 30 calendar days of the recommencement of operations following the premises being in care and maintenance and provide the following details:
 - (a) date and time of the recommencement of operations.
- 13.** The licence holder must notify the CEO in writing within 30 calendar days of the premises entering care and maintenance and provide the following details:
 - (a) date and time of care and maintenance commencing.
- 14.** 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 by no later than 31 days after the end of that annual period an Annual Audit Compliance Report in the approved form.
- 15.** The licence holder must submit to the CEO by no later than 31 days after the end of each annual period, and Annual Environmental Report for that annual period for the conditions listed in Table 5, and which provides information in accordance with the corresponding requirements set out in Table 5.

Table 5: Annual Environment Report

Condition	Requirement
9	Tabulated surface water monitoring data and time series graphs for each monitoring point.
5	<p>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).</p> <p>An interpretation of the monitoring data including comparison to historical trends and emission limits.</p> <p>Copies of original monitoring, laboratory and analysis reports submitted by third parties</p>
11	Summary of complaints data

- 16.** 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 6 and 9 of this licence; and
 - (d) complaints received under condition 11 of this licence.
- 17.** The books specified under condition 16 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.

Definitions

In this licence, the terms in Table 6 have the meanings defined.

Table 6: Definitions

Term	Definition
ACN	Australian Company Number
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website).
annual period	a 12 month period commencing from 1 July until 30 June of the immediately following year.
ARI	Annual Recurrence Interval
AS 4323.1	means AS/NZS 4323.1: Stationary source emissions Selection of sampling positions
AS5667.1	means AS/NZS 5667.1:1998 Water quality - Sampling Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples
AS5667.6	means AS/NZ 5667.6: 1998 Water quality - Sampling Guidance on sampling of rivers and streams
books	has the same meaning given to that term under the EP Act.
care and maintenance	a period when there is no discharge from all discharge points specified in Table 2 for a period 30 calendar days or more.
CEO	means Chief Executive Officer of the Department. “submit to / notify the CEO” (or similar), means either: Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (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.
emission	has the same meaning given to that term under the EP Act.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA)
HCl	means Hydrogen Chloride
HF	means Hydrogen Fluoride
H ₂ SO ₄	means Sulfuric Acid
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.

Term	Definition
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.
mV	millivolts
NATA	means National Association of Testing Authorities
NO ₂	means Nitrogen Dioxide.
NTU	Nephelometric Turbidity Unit
PM	means Particulate Matter
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.
prescribed premises	has the same meaning given to that term under the EP Act.
Quarterly	means the four inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 30 September and 1 October to 31 December in any year.
SO ₂	means Sulfur Dioxide
STP	Standard Temperature (273 K or 0o C) and Pressure (101.3 kPa)
USEPA	means United States (of America) Environmental Protection Agency
USEPA Method 1	USEPA Method 1 – Sample/Velocity Traverses
USEPA Method 2	USEPA Method 2 – Velocity – S – type Pitot
USEPA Method 5	USEPA Method 5 - Particulate Matter
USEPA Method 8	USEPA Method 8 – Determination of Sulfuric Acid and Sulfur Dioxide
USEPA Method 26	USEPA Method 26 – Hydrogen Chloride, Halides, Halogens
USEPA Method 26A	USEPA Method 26A – Hydrogen Halide and Halogen – Isokinetic Method

END OF CONDITIONS

Schedule 1: Maps

Premises map

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



Figure 1: Map of the boundary of the prescribed premises

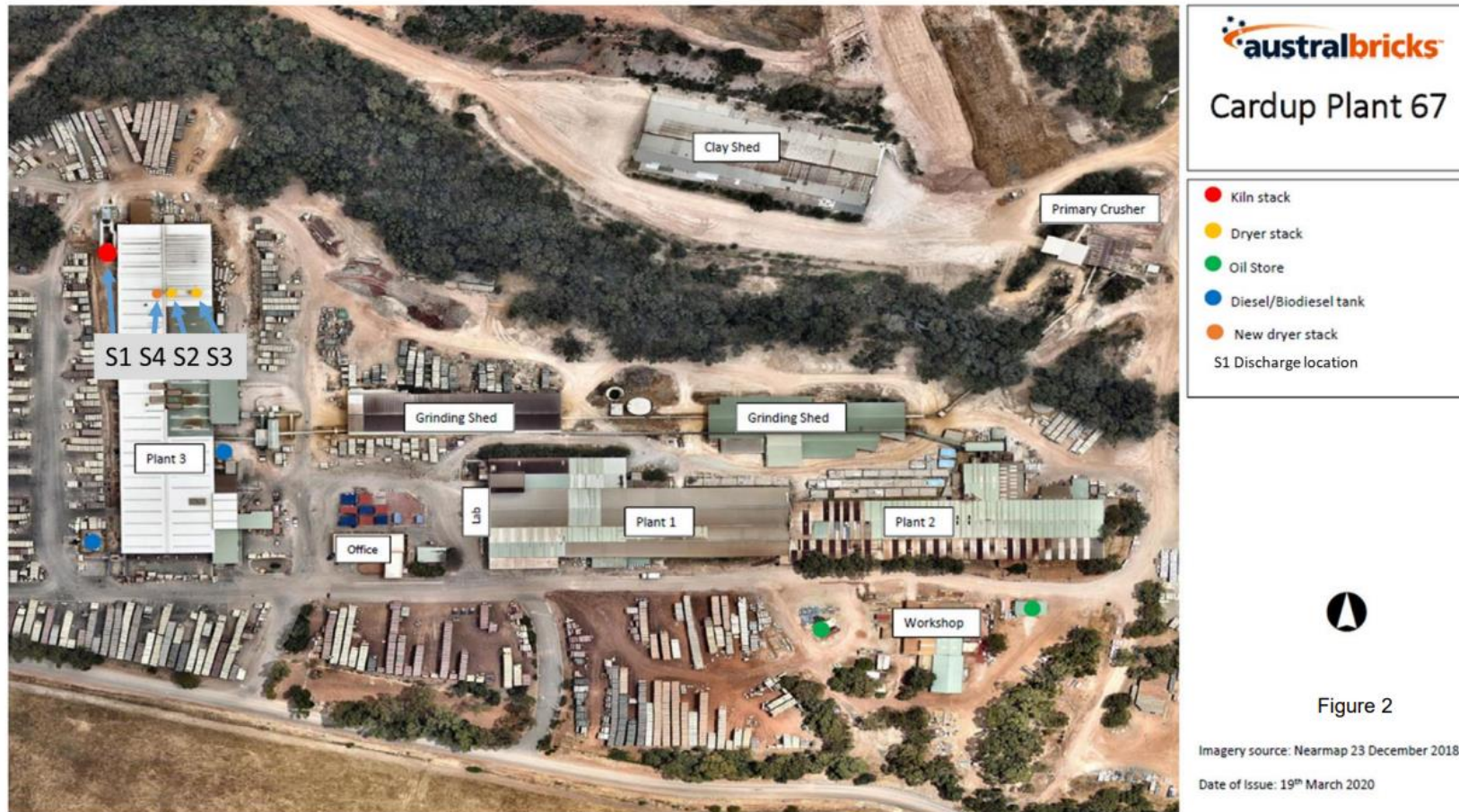


Figure 2

Imagery source: Nearmap 23 December 2018

Date of Issue: 19th March 2020

Figure 2: Manufacturing area layout

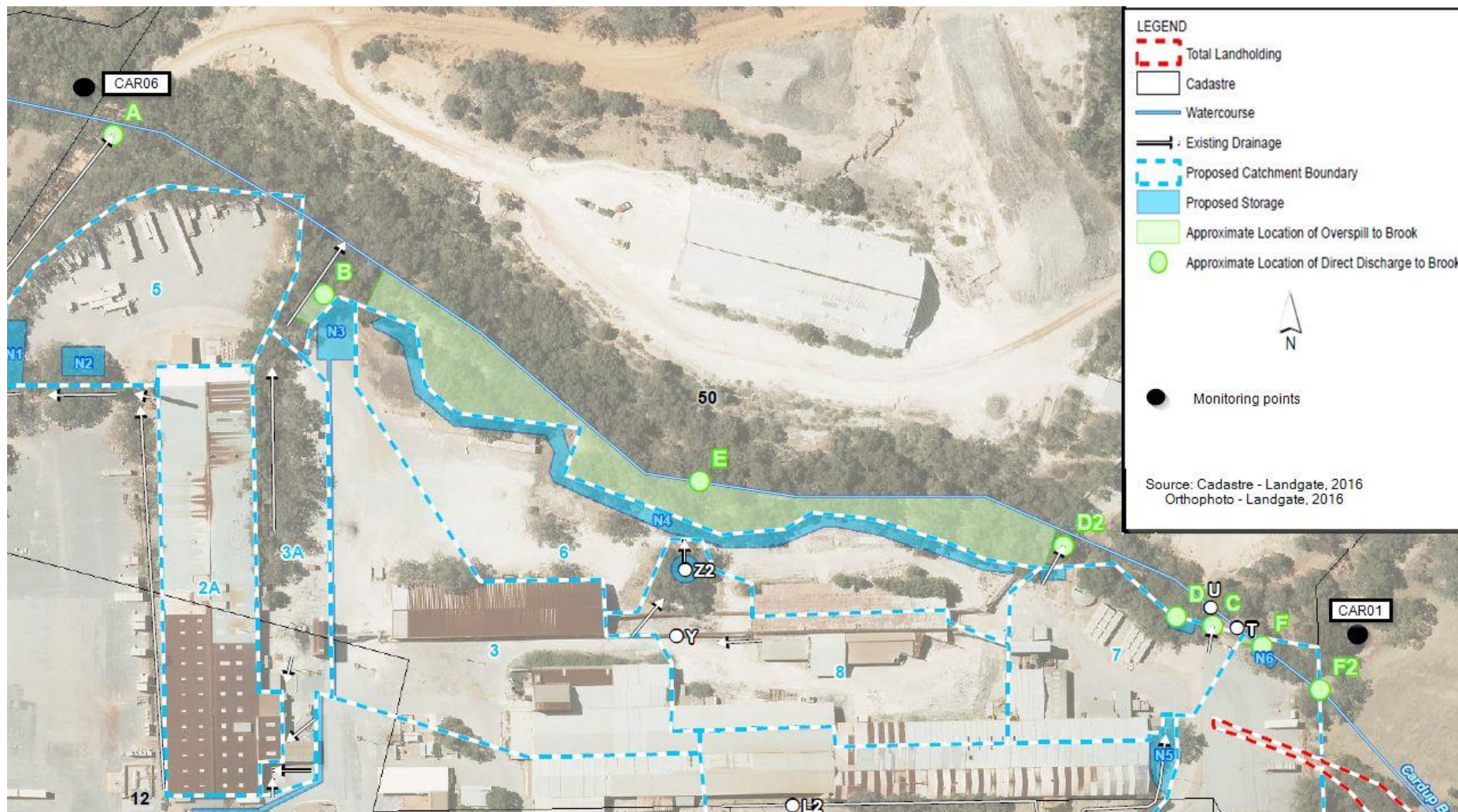


Figure 3: Direct Discharge Points and Monitoring Points for Surface Water

Schedule 2: Monitoring

Monitoring of discharges to air

Table 7: Monitoring of discharges to air

Discharge Point	Monitoring Location on Figure 2 in Schedule 1	Parameters	Frequency	Averaging period	Unit ¹	Method ^{2,3}
Kiln Stack S1	S1	Flow rate	Quarterly	60 minutes	m ³ /s	USEPA Method 2
		PM			mg/m ³ and g/s	USEPA Method 5
		Total oxides of sulphur (as SO ₂)				USEPA Method 8
		HCl		30 minutes minimum		USEPA Method 26 or 26A
		HF				

- Note 1: Concentrations to be corrected to STP at 18% oxygen on a dry basis.
 Note 2: Duplicate runs to be completed consecutively on the same sampling day;
 Note 3: Where USEPA methods refer to USEPA Method 1 for the sampling plane, this should be read as a referral to AS/NZS 4323.1:2001.
 Note 4: The licence holder is not required to undertake the monitoring specified in Table 7 when the premises is under care and maintenance.

Schedule 3: Bypass Management Procedure

If the licence holder identifies an issue that requires the scrubber to be placed into bypass, they must initiate the following procedure if the bypass is anticipated to last for more than 30 minutes:

1. Complete a record or log containing the following information:
 - a) Bypass start date and time
 - b) Reason for bypass
 - c) Action taken
 - d) Bypass finish date and time
 - e) Duration of bypass
2. Slow the push rates to the calculated rates based on the following formula:

$$ER = T \times C \times (1 - r) \times (1 - e)$$

ER = emission rate in grams per second

T = throughput of tonnes per second

C = concentration of fluoride in the clay as grams per tonne (as appropriate for each clay mix in the current product)

r = % retention of fluoride in the fired brick (typically - 40%)

e = % efficiency of scrubber = 0 when scrubber is in bypass