



Attachment 2: Potential Environmental Impacts

Proposal Title	Cardup Redevelopment
Proponent	Austral Bricks (WA) Pty Ltd
Proposal Description	<p>To redevelop Plant 3 and ancillary infrastructure at the Cardup Brickworks including:</p> <ul style="list-style-type: none"> • Expanding the capacity from 200,000 to 250,000 tonnes per annum; • New kiln and dryers; • New baghouse scrubber; • New hopper and reinstated conveyor; • New primary crusher; and • Internal haul road upgrades and widening of crossovers.

EPA Factor*	Surveys and investigations undertaken	Potential impact(s) – based on the surveys	Management of impacts
Flora and Vegetation	<p>Level 2 Flora and Vegetation Survey Spring 2019</p> <p>IBSA – 2020-0375</p>	<p>Clearing of 1ha of ‘Eucalyptus rudis creekline’.</p> <p>Part of the 1ha falls within Bush Forever Site 271.</p> <p>No impacts to conservation significant flora (including threatened flora).</p>	<p>Careful selection of area required to be cleared.</p> <p>Implementation of weed and dieback protocols.</p> <p>Clear demarcation of vegetation to be cleared.</p> <p>Clearing Permit under Part V EP Act.</p> <p>EPBC Referral for comment.</p>
Terrestrial Fauna	<p>Level 1 Fauna Survey and Targeted</p>	<p>Clearing of 1ha of ‘Eucalyptus rudis creekline’.</p>	<p>Careful selection of area required to be cleared.</p>

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	<p>Cockatoo Habitat Survey 2019</p> <p>IBSA-2020-0378</p>	<p>Part of the 1ha falls within Bush Forever Site 271.</p> <p>Matters protected by the EPBC Act that may be affected by the proposed action is 'Listed Threatened Species and Communities', specifically habitat for Carnaby's Black Cockatoo, Baudin's Black Cockatoo and Forest Red-tailed Black Cockatoo.</p> <p>No known nesting trees or roosting trees will be impacted by the proposed clearing.</p>	<p>Implementation of weed and dieback protocols.</p> <p>Clear demarcation of vegetation to be cleared.</p> <p>Clearing Permit under Part V EP Act.</p> <p>EPBC Referral for comment.</p>
Inland Waters	<p>Survey of crossovers, January 2020.</p> <p>Annual surface water monitoring of Cardup Brook.</p>	<p>Multiple Use Wetland located 100m West of the manufacturing facility.</p> <p>Upgrading and widening the crossovers will likely see small localised impact during construction.</p> <p>Long term improvement to surface water quality in the Cardup Brook so that environmental values are protected.</p> <p>There is no expected impact to groundwater.</p>	<p>Clear demarcation of area of disturbance.</p> <p>Minimise impacts during construction.</p> <p>Ongoing surface water monitoring of Cardup Brook.</p> <p>Stormwater Management Plan.</p> <p>Interference with Bed and Banks Permit under RIWI Act.</p>
Air Quality	Air Emissions Assessment, February 2020.	The air dispersion model (AERMOD) concluded that during normal operation, all	Environmental Works Approval and Licence under the EP Act.

EPA Factor*	Surveys and investigations undertaken	Potential impact(s) – based on the surveys	Management of impacts
		pollutants are below relevant AGV's at all receptors for all averaging periods.	Dust Management Plan. Installation of DIFF scrubber.
Greenhouse Gas Emissions	GHG Assessment Cardup	<p>Brickworks has been recording and reporting its carbon emissions under the National Greenhouse and Energy Reporting Scheme since its inception. We have an established database of carbon emissions from each of our Australian sites.</p> <p>We have modelled expected greenhouse emissions of Cardup against the Wollert plant in Victoria. Wollert is a typical modern natural gas fired brick factory with 2 kilns commissioned in 2011.</p> <p>The expected maximum throughput of Cardup is 96.5 million bricks per year (confidential). The expected carbon intensity is 0.45 tCO₂-e/000 bricks. The calculated annual emissions are 40,530 tCO₂-e/ year which is well below the Safeguard Mechanism threshold.</p>	<p>Environmental Works Approval and Licence under the EP Act.</p> <p>Installation of new kiln and dryers to replace existing equipment.</p> <p>Installation of DIFF scrubber.</p>

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		Parameters	Wollert	Cardup	
		Throughput	157 million standard brick equivalent (SBE) (confidential)	96.5 million SBE (maximum) (confidential)	
		Carbon Emissions	70,138	40,530	
		Carbon Intensity	0.45	0.45	
Social Surroundings	<p>Odour Impact Assessment, January 2020.</p> <p>Environmental Noise Assessment, March 2020.</p> <p>Transport Impact Statement, September 2020</p>	<p>The Odour Impact Assessment determined that:</p> <ul style="list-style-type: none"> • There is no estimated increase in mass odour emission rates from the proposed upgrade; • The normal and foreseeable upset conditions for the upgraded site will not change from current operations; • The site contingency actions during bypass and maintenance upset conditions have been proved to be effective in minimizing odour impacts to discrete complaints. (EAQ Consulting, Works Approval Odour Impact Statement, EAQ-20001) 			<p>Environmental Works Approval and Licence under the EP Act.</p> <p>Dust Management Plan.</p> <p>Installation of DIFF scrubber.</p> <p>Commitment to undertake noise recommendations.</p> <p>Upgrade of intersection and additional turn treatments including utilization of land owner by applicant to enable the upgrade.</p>

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		<p>Based on noise modelling undertaken, the expansion can generate a noise increase at noise sensitive receivers. However, the predicted noise levels are not expected to exceed assigned noise levels, as long as the recommendations are adhered to.</p> <p>The TIS concluded that the proposed development would not have an unacceptable adverse impact on the surrounding road network.</p> <p>A swept path assessment indicate that the intersection would need to be upgraded to accommodate the turning movement of the proposed trucks and additional turn treatments.</p>	