

Response to the Submission
from the
Sydney Catchment Authority
for the
New Berrima
Clay/Shale Quarry

Major Project Application No PA_08-0212



Compiled by:

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Major Project Application No PA_08-0212

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1. INTRODUCTION

This report has been prepared by R.W. Corkery & Co. Pty Limited (RWC) on behalf of the Proponent of the New Berrima Clay/Shale Quarry Project, The Austral Brick Company Pty Limited (Austral), in response to submissions by the Sydney Catchment Authority that was lodged with the then NSW Department of Planning (now Department of Planning and Infrastructure) following the public exhibition of the *Environmental Assessment* prepared in support of the project approval under Part 3A of the *Environmental Planning and Assessment Act 1979*.

The report is an addendum to a Response to Submissions previously compiled by RWC to address issues raised by five other government agencies (NSW Office of Water; Department of Environment, Climate Change and Water; Industry & Investment NSW; Wingecarribee Shire Council; and Roads and Traffic Authority) and two members of the general public (Robert and Paula Mclean (Pingama Pty Ltd), Flocolo Family Trust (Adrian Mackenzie)). As such, this report should be read in conjunction with the previously prepared Response to Submissions.

Consultations with Mr Andrew Macleod (Director, SEEC), who prepared the surface water assessment for the Project for inclusion in the *Environmental Assessment*, were held to discuss the submission by the Sydney Catchment Authority prior to the preparation of the responses to the issues raised. Mr Macleod has reviewed the responses included in Section 2 of this document.

This report was reviewed by Adam Davies (Property Development Manager, The Austral Brick Company Pty Ltd) for and on behalf of the Proponent.

2. SYDNEY CATCHMENT AUTHORITY RESPONSES

Water Quality and the Drinking Water Catchments Regional Environmental Plan No1

The project site is located within the Warragamba catchment which is part of Sydney's drinking water catchment as defined by the "Drinking Water Catchments Regional Environmental Plan No1" (REP). It is therefore important that the proposed quarrying activity and transport of product does not adversely affect the impact the quality of surface and groundwater beyond the boundaries of the site.

The SCA has reviewed the Environmental Assessment (EA) and although Part 3A projects are not subject to the provisions of the REP, the SCA considers that water quality issues should be comprehensively considered in the assessment process and be consistent with the requirements of the REP.

Response

The Proponent acknowledges the importance of maintaining the quality of surface and groundwater within the Warragamba Catchment. A surface water monitoring program will be incorporated as part of the site's full Soil and Water Management Plan (Environmental Management Plan), to be prepared following project approval and prior to any disturbance within the Project Site. The nominated monitoring sites within and outside of the Project Site boundary, the frequency of sampling, and the analyte suite monitored for the site's Surface Water Management Plan (further details given below) will be such that it will achieve the objectives of the REP pertaining to water quality indicators and trigger levels, i.e. the Plan will



be adequate enough to minimize the risk of any pollution of receiving waters. The ANZECC /ARMCANZ 2000 default trigger values will be used as a guide for response measures, unless site specific trigger values determined from reliable baseline datasets for all measured parameters exceed the ANZECC /ARMCANZ 2000 trigger values in which case they will be used as a guide for the implementation of response measures.

Action

The preparation and implementation of a Soil and Water Management Plan (Environmental Management Plan) which would include the site Surface Water Monitoring Plan, has been included as a new statement of commitment (SoC 4.6) in the Project *Statement of Commitments* (see Section 3).

Neutral or Beneficial Effect on Water Quality

The SCA considers that the Environmental Assessment should have included a more detailed consideration of the REP and an assessment of whether the project has a neutral or beneficial effect on water quality (NorBE).

Response

The Project will have a neutral effect on water quality for all rain events up to and including the 100-year, 24-hour rainfall event, which has been used as the design criteria for operational sediment basins. Releases from sediment basins would be in accord with the best-practice requirements in Landcom (2004) and DECC (2008) (Collectively known as “The Blue Book”).

It is acknowledged that there may be a negative water quality impact following rain events exceeding the 100-year, 24-hour event, however these are infrequent, uncommon and are generally associated with a significant decline in background water quality in local watercourses due to runoff from other lands within the catchment. The historical daily rainfall record for Moss Vale (Hoskins Street) AWS (Station 068045) suggests that daily rainfall events exceeding 50 mm over a 24 hour period occur on average only two to three times per year (determined using 140 years of daily rainfall data from 1870 – 2010).

MUSIC modelling was not conducted because MUSIC cannot adequately model the type of operational sediment basins detailed in The Blue Book.

Action

No action is proposed at the present time.

Re-sizing of Operational Sediment Basins

Notwithstanding the above, the SCA notes that the operational sediment basins have been revised to meet the sizing required for a 100 year 24-hour event. This has been achieved in the sub-catchment SB1 and sub-catchment SB2 by reducing total catchment area draining to the basins by constructing clean water diversion bunds.

Response

No response required.



Management of Clay Stockpiles

There remains a discrepancy between the EA (Section 5.2.4.4) and the associated Specialist Consultant Studies Compendium (Section 6.3.3.1) in relation to the location of the clay stockpiles outside of the pit area. The management of clay stockpiles outside of the pit confines in the overburden stockpile area, is considered to be a significant risk to water quality as trucks will be trafficking the area and the clay stockpiles may be disturbed during periods of wet weather. This increased potential for sediment mobilisation should be able to be effectively addressed in a full Soil & Water Management Plan (SWMP) for the site.

Response

The proposed Sediment Basin 2 design including its size and location (identified in **Figure 5.3** of the *Environmental Assessment*) embraces the overburden stockpile area in its catchment and has been specifically designed to capture any sediment-laden water run-off from the stockpiles due to trafficking of the area and/or disturbance caused by wet weather. As such, minimal sediment-laden water (if any) would leave the site and the water quality of the receiving waters (Stoney Creek and Wingecarribee River) will not be compromised from the Project-related activities. Additionally, a commitment (SoC 4.5) is already present in the Project *Statement of Commitments* (see Section 3) relating to the construction and operation of the various surface water management controls. Diversion structures and sedimentation basins would ensure that no sediment-laden water with total suspended solid concentrations >50 mg/L would be allowed to be discharged from Sediment Basin 2 following rainfall events up to the design rainfall event.

The impact of the clay stockpiles on water quality will be insignificant. SCA's claim that it would be significant is overstated. The management of the clay stockpiles outside of the pit confines and within the overburden stockpile area will be undertaken appropriately and will include management aspects that will minimise any risks to water quality in the overall Warragamba Catchment, as already noted above. The Soil and Water Management Plan (Environmental Management Plan) will contain all appropriate management aspects and response measures that will be implemented, in the unlikely event there is a possibility the catchment water quality could be impacted by the Project activities.

Action

The preparation and implementation of a Soil and Water Management Plan (Environmental Management Plan) which would include the Surface Water Monitoring Plan, has been included as a new statement of commitment (SoC 4.6) in the Project *Statement of Commitments* (see Section 3).

Preparation of a Detailed Soil and Water Management Plan (SWMP)

A requirement for the preparation of a detailed SWMP as a condition of approval should address all activities on site, including the access road upgrade; the Stoney Creek bridge upgrade; any upgrade to Berrima Road, the clay stockpiles outside of the pit floor; as well as the pit and associated operational areas and structures such as berms.

Response

A detailed Soil and Water Management Plan (Environmental Management Plan) will be prepared for the site following project approval and prior to any disturbance within the



nominated Project Site boundary. The Soil and Water Management Plan / Environmental Management Plan will cover all project-related activities proposed in the *Environmental Assessment*, including the site access road upgrade, the upgrade of the existing intersection of the site access road with Berrima Road, the proper management of the clay stockpiles outside of the pit floor, as well cover areas such as the pit and the associated operational areas and structures.

The Soil and Water Management Plan (Environmental Management Plan) will comprise:

- A Surface Water Monitoring and Response Plan;
- An Erosion and Sediment Control Plan; and
- A Site Water Balance.

These individual plans will include the following components to ensure that no pollution of receiving waters occurs from Project-related activities.

- Construction and maintenance of appropriately designed water management structures (diversion bunds and sediment basins) to divert clean water away from the extraction area and the removal (by settling and/or by addition of appropriate flocculants) of sediment from the sediment-laden water to the <50 mg/L guideline value prior to discharge off site.
- Management of incidents with the potential to result in adverse impacts from the Project i.e. degradation of water quality, storage and discharge of nominated quantities of water such that the site does not become a net water deficit site (water user) or net water generator (surplus).
- Appropriate response measures and follow-up actions to be implemented in the event that the nominated trigger levels of the nominated analytes and monitoring parameters are exceeded.
- Regular inspection of the water management structures to ensure the initial set of design criteria remain appropriate, and if necessary implementation of maintenance works to re-establish the initial design criteria in the water management structures;
- Development of appropriate reporting protocols.
- Review, and if necessary updating, of the management plans every 12 months.

Note the upgrade of the Stoney Creek Bridge has not been proposed in the *Environmental Assessment* and hence this component will not be included in the Soil and Water Management Plan (Environmental Management Plan).

Action

The preparation and implementation of a Soil and Water Management Plan (Environmental Management Plan) which will include the Surface Water Monitoring and Response Plan, the Erosion and Sediment Control Plan, the Site Water Balance, has been included as a new statement of commitment (SoC 4.6) in the Project *Statement of Commitments* (see Section 3).



Incident Management Plan

The preparation of an Incident Management Plan should also be a condition of approval.

Response

The preparation of a stand-alone Incident Management Plan would be unnecessary given the scale and nature of the proposed activities. The Surface Water Monitoring and Response Plan that would be prepared for the Project prior to any disturbance will encapsulate actions required to mitigate or contain any Project-related incidents with the potential to degrade water quality within the Wingecarribee sub-catchment and the Warragamba Catchment.

Since no routine maintenance of Project-related trucks and machinery would be undertaken within the Project Site boundary (see Section 2.8.2 of the *Environmental Assessment*) incidents relating to hydrocarbon spills or on-site storage of waste oils are highly unlikely. A hydrocarbon spill kit, will be maintained on site for the use of all personnel operating machinery for dealing with any unforeseen or accidental hydrocarbon leakage. This precaution will be sufficient to cover this aspect of possible operational incidents.

Given that no overhead power lines or underground cables traverse the extraction area incidents relating to overhead power lines and underground cables will not arise and thus the preparation of a dedicated Incident Management Plan would not be necessary for the Project.

Action

While the preparation of a stand-alone Incident Management Plan is not proposed, the Surface Water Monitoring and Response Plan see that will be prepared for the site will include the appropriate actions to be taken in response to triggers identified in the Plan to mitigate or contain any incidents that will impact on water quality.

Surface Water Quality Monitoring Program

As stated in its EA adequacy review, the SCA considers that the proposed water quality monitoring program is inadequate and will not provide meaningful information or enable meaningful comparisons. The SCA requests that an upgraded monitoring program be required that:

- expands baseline monitoring to encompass at least two years of baseline monitoring, and include samples from at least 10 separate occasions under a representative range of rainfall events;*
- adds turbidity to the list of water quality parameters to be monitored; and*
- supplements the proposed annual monitoring with monitoring of all significant rainfall/runoff events during the year.*

Response

A baseline Surface Water Monitoring and Response Plan will be commenced as soon as practical after the receipt of project approval to establish baseline water quality prior to the commencement of extraction activities. The surface water assessment for the *Environmental Assessment* (see Section 5.2, and Part 2 of the *Specialist Consultant Studies Compendium*) concluded that, the small scale nature of the extraction activities proposed and the operational



safeguards that will be implemented at all times, would ensure there would be minimal adverse impacts on surface water quality of the receiving waters. As such, the surface water monitoring program needs to be commensurate with the low potential risks involved with the Project.

The baseline monitoring program suitable for this Project will be based on the following sampling frequency, analyte suite, monitoring locations and timeframe, and would be sufficient to generate datasets that would allow the determination of reliable baseline levels of all parameters proposed to be monitored in the program.

- Sampling Frequency – every quarter over a 12-month period to compile data from all four seasons. This data will complement the dataset already assembled as part of the surface water assessment for the *Environmental Assessment*.
- Analyte suite – The following analyte suite will be monitored in the Surface Water Monitoring and Response Plan:
 - pH in water;
 - Electrical Conductivity;
 - *Chloride ion concentration;
 - *Sulfate ion concentration;
 - Ammonia Nitrogen concentration;
 - Reactive and Phosphorus concentration;
 - *Major cation concentrations (calcium, magnesium, sodium and potassium)
 - Turbidity;
 - Total suspended solids.

Note: The results for those analytes marked with an asterisk (*) will be reviewed at the end of the first 12 months and analyses discontinued should there be no significant observable changes in the results during that period.

- Monitoring locations – same as used previously for the surface water assessment for the *Environmental Assessment* as follows:
 - WS1 – Farm Dam 5 (only location within the Project Site that regularly has standing or flowing water).
 - WS2 –Wingecarribee River immediately downstream of the Project Site.
 - WS3 –Stony Creek immediately downstream of the road crossing.

‘Wet weather’ sampling will form part of the Surface Water Monitoring Program and would comprise sampling following rainfall events exceeding 50 mm over a 24-hour period, estimated to occur two to three times per year. This wet weather sampling campaign trigger has been determined from 140 years of daily rainfall data (1870 – 2010) from Moss Vale (Hoskins Street) Station, and is considered appropriate for the site.

Action

A Surface Water Monitoring and Response Plan commensurate with the low potential risk of the Project will be implemented as soon as practical after the receipt of project approval. The



monitoring program will be designed to obtain at least four datasets of all parameters being monitored to establish baseline levels for the site, and which would be used to measure (if any) the impacts of the extraction activities on the catchment surface water quality. The Surface Water Monitoring and Response Plan will have provisions of supplementary wet weather sampling campaigns for all rainfall events exceeding 50 mm over a 24-hour period.

Approved Permanent On-site Wastewater Management System

Finally, as also stated in its EA adequacy review, the SCA considers that the use of a portable toilet on site for the 30 years of quarry operation is undesirable. It requests that a condition of approval be the installation of an approved permanent onsite wastewater management system under the Local Government Act 1993.

Response

The installation of an approved permanent on-site wastewater management system would be undesirable due to the risk that it might not function efficiently. The anticipated wastewater load is very low (two personnel for 4 to 6 weeks, two to three times per year), and many permanent on-site wastewater management systems do not function well under intermittent or shock loads. To minimize the risk of inefficient operation (e.g. odour emissions, surface and groundwater pollution) a portaloo was deemed appropriate.

The proposed portaloo also offers the advantage of being relocatable, so it can be positioned close to where workers might be operating. It can also be serviced and/or replaced simply, as required.

Action

No action is proposed at the present time.



3. AMENDED STATEMENT OF COMMITMENTS

The following Statement of Commitments supersedes versions previously supplied as part of the *Environmental Assessment* and that included in the first of the two Response to Submissions submitted to the Department of Planning and Infrastructure. The Statement of Commitments has been amended to include eight new commitments (SoC 2.4 – 2.7, SoC 4.6, SoC 5.10, SoC 5.11 and SoC 8.11) and incorporate two corrections (SoC 4.5 and SoC 5.7). The changes made are shown in **blue** in **Table 3.1**.

Table 3.1
Statement of Commitments for Site Construction, Operations and Management

Page 1 of 8

Desired Outcome	Action	Timing
1. Area of Activities and Operations		
All approved activities are undertaken in the area(s) nominated on the approved plans and figures (unless moved slightly to avoid individual trees).	1.1 Survey and mark the boundaries of the areas of disturbance on the ground.	Prior to any vegetation clearing.
Satisfaction of the requirement of Industry and Investment NSW for production data.	1.2 Provide annual production data to Industry and Investment NSW (and include in the AEMR).	Annually (July).
2. Operating Hours		
Management of operations in accordance with the approved operating hours.	2.1 Undertake extraction operations between 7:00am and 5:00pm on Monday to Fridays and 7:00am to 2:00pm on Saturdays.	During operations.
	2.2 Undertake product clay/shale despatch between 7:00am and 4:00pm, Monday to Friday, 7:00am and 4:00pm on Saturdays if required due to special circumstances and 8:00am to 4:00pm Sundays if required due to special circumstances.	During operations.
	2.3 Undertake repairs and maintenance between 6:00am and 6:00pm on Monday to Fridays, 7:00am and 6:00pm on Saturdays and 8:00am to 6:00pm on Sundays.	During operations.
	2.4 Design and implement a Notification Protocol to alert all potentially affected residences of the intention to undertake activities outside of normal hours of operation.	During operations.
	2.5 Institute a complaints telephone line for the reporting of complaints (if any) on activities undertaken outside of normal hours of operation.	During operations.
	2.6 Maintain a Complaints Register to record complaints received and actions taken by the Proponent to address the complaints.	During operations.
	2.7 Operate equipment out of line-of-sight of residences north of Wingecarribee River.	Saturdays.



Table 3.1 (Cont)
Amended Statement of Commitments for Site Construction, Operations and Management

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Desired Outcome	Action	Timing
3. Traffic		
Minimisation of traffic impacts, including road safety.	3.1 Construct a Basic Rural intersection treatment (BAR) to permit safe and easy access for 19m articulated vehicles to the Project Site from Berrima Road. This would be incorporated with the construction of a new entrance gate and driveway, which would be at least 12.5m in width to comply with AS 2890.2:2002.	During six month construction period.
	3.2 Align the transport route along Cavendish Street in Mittagong to avoid Lyell Street in which a school is located and has parking on both sides of the road.	Prior to off-site transportation.
	3.3 Construct a rubble pit at the western end of the site access road, which all vehicles exiting the Project Site must pass over, to reduce soil and mud on their wheels.	During six month construction period.
	3.4 Seal the last 400m of the site access road from the entrance to the Project Site	During six month construction period.
	3.5 Cover all loads.	Ongoing.
	3.6 Ensure truck drivers adhere to the existing Austral Bricks Drivers Code of Conduct which identifies the required safety and courtesy requirements for drivers travelling to and from all Austral Bricks quarries.	Ongoing.
	3.7 Adopt all safety procedures during the Berrima Road / access driveway intersection construction and incorporate in the Section 138 Permit sought under the Roads Act 1993.	During six month construction period.
4. Surface Water		
Minimisation of potential impacts on surface water quality and supply of the local watercourse system, particularly the Wingecarribee River.	4.1 Commence extraction on the southern slopes of the hill in the middle of the Project Site to minimise the risk of sediment – laden flows to the Wingecarribee River.	Commencement of extraction.
	4.2 Ensure early and progressive revegetation of amenity bunds and rehabilitation of completed extraction areas.	Ongoing.
	4.3 Use of any water sourced from the sedimentation basins for dust suppression within the upslope catchment of a sedimentation basin.	As required.



Table 3.1 (Cont)
Amended Statement of Commitments for Site Construction, Operations and Management

Page 3 of 8

Desired Outcome	Action	Timing
4. Surface Water (Cont)		
	4.4 Install sediment control fencing around the amenity bunds under construction and other areas of exposed soil until vegetation has been established.	As required.
	4.5 Construct and operate various surface water management controls such as diversion structures and sedimentation basins.	During six month construction period.
	<ul style="list-style-type: none"> Design operational sedimentation basins including an emergency spillway designed to safely convey the 100-year ARI flow (DECC, 2008). 	During six month construction period.
	<ul style="list-style-type: none"> Inspect sedimentation basins fortnightly and within 24 hours following any rain event exceeding 50 mm to check their capacity and integrity. 	Ongoing.
	<ul style="list-style-type: none"> Repair any damaged components of the sedimentation basins as soon as practicable. 	As required.
	<ul style="list-style-type: none"> Discharge sedimentation basins only when water has 50mg/L or less of suspended sediment. 	As required.
	<ul style="list-style-type: none"> Discharge waters within five days after the conclusion of a rain event, at or below the required water quality limit of 50mg/L. 	As required.
	<ul style="list-style-type: none"> Install a marker in each sedimentation basin showing the boundary between the Storage Zone (i.e. the lower zone) and the Settling Zone (i.e. the upper zone) in the basin. 	During six month construction period.
	<ul style="list-style-type: none"> Inspect the level of retained sediment after discharging treated water from any sedimentation basin. If retained sediment exceeds the marked level of the Storage Zone, remove sediment and add to an active stockpile. 	As required.
	<ul style="list-style-type: none"> Regularly review the management procedures for the sedimentation basins to ensure ongoing efficient operation and protection of downstream water quality. 	Ongoing.



Table 3.1 (Cont)
Amended Statement of Commitments for Site Construction, Operations and Management

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Desired Outcome	Action	Timing
4. Surface Water (Cont)		
Minimisation of potential impacts on surface water quality and supply of the local watercourse system, particularly the Wingecarribee River.	<ul style="list-style-type: none"> • Armour potential scour points (e.g. channel inlets/outlets and bends) with rock. • Inspect diversion structures monthly and within 24 hours following any rain event that generates flow in the drains to identify areas of erosion, scour or damage. Repair any problem areas and/or take appropriate stabilising action. 	<p>During six month construction period.</p> <p>Ongoing.</p>
	<p>4.6 Develop and implement a (Soil and Water Management Plan (Environmental Management Plan) for the site, comprising:</p> <ul style="list-style-type: none"> • A Surface Water Monitoring and Response Plan; • An Erosion and Sediment Control Plan; • A Site Water Balance. 	Following project approval.
5. Noise		
Minimisation of the noise impacts attributable to extraction and transportation of clay /shale product from the Project Site.	<p>5.1 Construct amenity bunds on three sides (southern, western and northern) of the extraction area and retain the existing tree screen on the eastern side of the extraction area.</p>	During six month construction period.
	<p>5.2 Commence extraction (Stages 1 to 3) on the southern side of the hill, providing noise screening to residences on the northern side of Wingecarribee River, until amenity bunds are fully established with trees.</p>	Commencement of extraction.
	<p>5.3 Align the proposed transport route avoiding wherever possible residential, school and other sensitive receiver areas.</p>	Prior to off-site transportation.
	<p>5.4 Under NE wind conditions, bund construction would be limited to the northern end of the western bund or the northern bund.</p>	During six month construction period.
	<p>5.5 Construction of the southern bund and southern section of the western bund would be limited to westerly wind conditions or neutral conditions.</p>	During six month construction period.
	<p>5.6 Construction of the southern bund and southern section of the western bund would not occur during any transportation campaign.</p>	During six month construction period.
	<p>5.7 Adhere to all hours of operation presented in Section 2.7.1 of the Environmental Assessment.</p>	Ongoing.



Table 3.1 (Cont)
Amended Statement of Commitments for Site Construction, Operations and Management

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Desired Outcome	Action	Timing
5. Noise (Cont)		
	5.8 Regularly service all equipment on site to ensure sound power levels of each item remains at or below that nominated for noise modelling purposes.	Ongoing.
	5.9 Ensure all truck drivers comply with the Bowral Brick Plant Drivers Code of Conduct which outlines procedures for reducing noise impacts during transportation.	Ongoing.
	5.10 Ensure processing of materials will not be undertaken within the Project Site boundary.	Ongoing.
	5.11 Ensure all earth-moving equipment are fitted with mid-frequency band reversing alarms.	Ongoing.
6. Flora		
Minimisation of the spread of weeds, on and off site.	6.1 Quick establishment of a selected cover crop.	During six month construction period and ongoing.
	6.2 Spray weeds with an authorised herbicide.	As required.
	6.3 Ensure all earthmoving equipment is appropriately cleaned prior to being brought to site for each campaign.	Prior to each campaign.
7. Visual Amenity		
Reduce visible amenity impacts.	7.1 Construct 7m high southern and western amenity bunds to screen the views of the extraction area and the surplus overburden stockpile area from the west and south.	During six month construction period.
	7.2 Plant trees screenings at the eastern side of the surplus overburden stockpile area to screen stockpiles from the east.	During six month construction period.
	7.3 Establish a farm forest over the Stage 4 area at the commencement of the project. These trees would be of sufficient height at the commencement of Stage 4 (18 years) to provide screening of the Stage 4 extraction area. Strip clearing as extraction proceeds northward of farm forest would ensure that screening is maximised.	During six month construction period.



Table 3.1 (Cont)
Amended Statement of Commitments for Site Construction, Operations and Management

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Desired Outcome	Action	Timing
7. Visual Amenity (Cont)		
	7.4 Screen the extraction area during Stages 5 and 6 from the north by the vegetated northern amenity bund.	During extraction period.
	7.5 Commence progressive rehabilitation of completed faces and all other completed disturbed areas as soon as possible after completion of extraction. Rehabilitation of the southern extraction area wall would be very advanced (13-18 years) and protect against views of extraction faces during Stages 5 and 6.	Ongoing.
8. Air Quality		
Limit the generation of dust and other emissions from site activities.	8.1 Construct vegetated amenity bunds to provide barriers to minimise the spread of dust from the Project Site.	During six month construction period.
	8.2 Commence progressive rehabilitation of all disturbed areas as soon as possible after the completion of excavation in that area.	Ongoing.
	8.3 Use water truck to routinely spray unsealed roads, tracks and stockpile areas.	Ongoing.
	8.4 Routinely spray stockpiles and stockpile transfer points with water.	Ongoing.
	8.5 Cover and effectively seal tailgates of trucks leaving the Project Site.	Ongoing.
	8.6 Install a truck shaker grid near the Project Site exit to minimise the amount of clay adhering to the truck.	During six month construction period.
	8.7 Prohibit all vehicles and machinery from idling unnecessarily.	Ongoing.
	8.8 Maintain all vehicles and machinery in accordance with manufacturers' specifications.	Ongoing.
Limit the generation of dust and other emissions from site activities.	8.9 Amend extraction practices as required during adverse wind conditions to minimise the generation and spread of dust from the Project Site.	As required.
	8.10 Minimise drop heights between front-end loader buckets and truck trays through operator training and education on the management of dust.	Ongoing.
	8.11 Apply dust suppressants (e.g. Gluon or TerraControl) on unsealed roads used for product transport.	In the event that sufficient water is not available on site for dust suppression.



Table 3.1 (Cont)
Amended Statement of Commitments for Site Construction, Operations and Management

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Desired Outcome	Action	Timing
9. Soils, Land Capability and Agricultural Sustainability		
Conservation of topsoil resources.	9.1 Strip all available topsoil to a depth of approximately 0.15m from the surface of each extraction stage.	Ongoing.
	9.2 Wherever practicable, place stripped topsoil directly onto the constructed amenity bunds or areas prepared and awaiting rehabilitation.	Ongoing.
	9.3 Stockpile topsoil in predetermined areas for later reclamation if no areas are available. Limit topsoil stockpiles to no more than 2.0m in height to minimise adverse impacts upon the biological activity of the topsoil.	Ongoing.
	9.4 Broadcast a native seed mix to assist with temporary stabilisation if topsoil stockpiles are likely to remain for extended periods.	As required.
	9.5 Avoid excessive handling of soil during the stripping and stockpiling operation and handling when the soils are wet to protect soil structure.	Ongoing.
	9.6 Restrict driving of machinery on the topsoil and subsoil stockpiles, as well as the respread soil, to maximise soil aggregation and prevent compaction, particularly when the stockpiles are moist.	Ongoing.
	9.7 Position stockpiles where run-off water from upslope does not pose a problem.	During six month construction period.
	9.8 Place silt-stop fencing or similar immediately down-slope of stockpiles and amenity bunds where required, until a stable vegetation cover is established.	During six month construction period.
Minimise the potential for soil contamination.	9.9 Restrict all refuelling and vehicle maintenance activities to designated areas which are either sealed, bunded or located with access to spill control kits.	Ongoing.
	9.10 Complete regular housekeeping and maintenance of vehicle maintenance areas.	Ongoing.



Table 3.1 (Cont)
Amended Statement of Commitments for Site Construction, Operations and Management

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Desired Outcome	Action	Timing
10. Heritage		
Comply with the provisions of the <i>National Parks and Wildlife Act 1974</i> (as amended).	10.1 Instruct employees, earthmoving contractors, subcontractors, machine operators and their representatives, whether working in the survey area or elsewhere, that in the event of any bone or stone artefacts, or discrete distributions of shell, or any objects of cultural association, being unearthed during earthmoving, work would cease immediately in the area of the find.	Ongoing.
	10.2 Immediately report the find to the Department of Environment, Climate Change and Water (DECCW) and the relevant Local Aboriginal Land Councils.	As required.
	10.3 In the event that any bone cannot be clearly identified by a qualified archaeologist as being of animal remains, inform the police of its discovery, and officials and/or their representatives of the Illawarra Local Aboriginal Land Council, Wodi Wodi Elders Corporation, and Korewal Elouera, Jerrungarugh, and the Archaeologist, DECCW (Wollongong) advised that the bone is subject to police investigation.	As required.
	10.4 Do not recommence work in the area of the find, until both the police (if unidentified bone has been found) and those officials or representatives have given their permission to do so.	As required.



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