

02 June 2017

**NSW Planning Assessment Commission Determination Report  
Calga Sand Quarry Modification 3 – Crushing System (DA 94-4-2004)**

**1. INTRODUCTION**

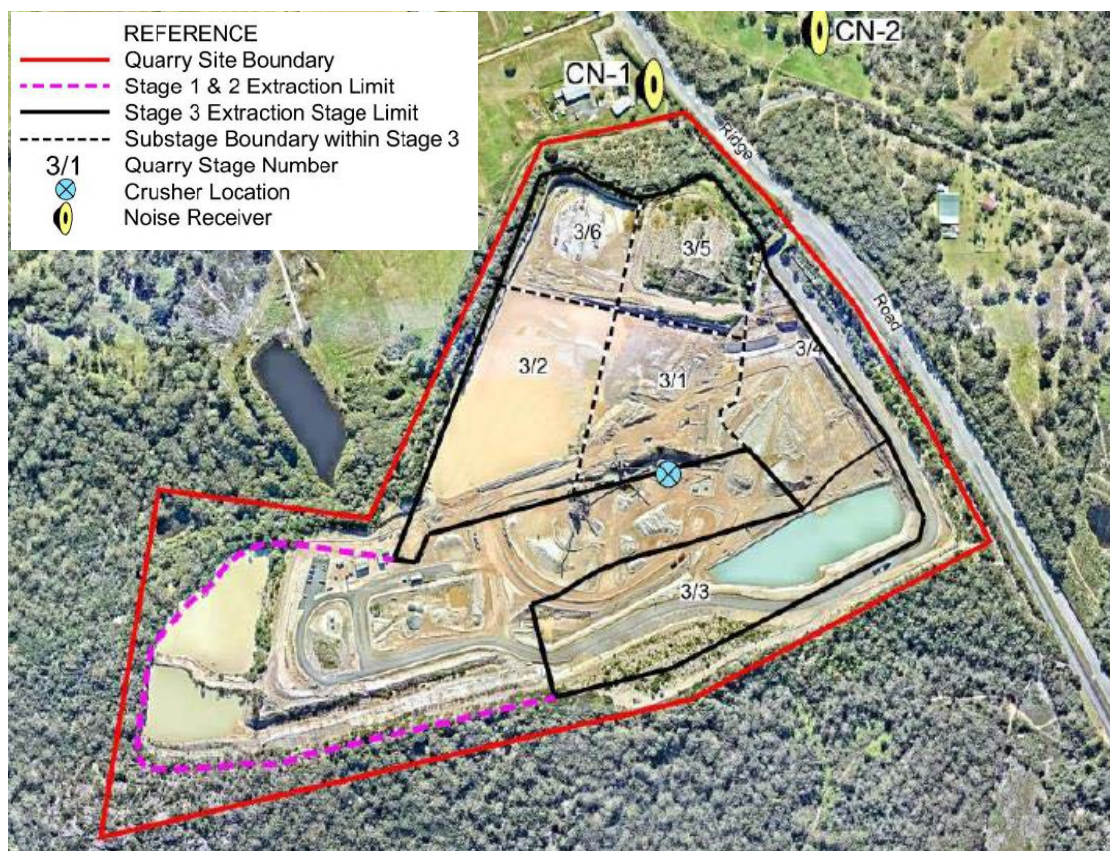
On 24 April 2017, the Planning Assessment Commission (the Commission) received from the Department of Planning and Environment (the Department) a modification request to a transitional Part 3A development under section 75W from Hanson Construction Materials Pty Ltd (the proponent) to install and operate a crushing system within the existing pit of the Calga Sand Quarry (the quarry).

The Department has referred the modification application to the Commission for determination in accordance with the Minister for Planning’s delegation because the Department received more than 25 submissions from the public in the nature of objections.

Ms Lynelle Briggs AO, Chair of the Commission, nominated Stephen O’Connor (chair), Paul Forward, and Dr Maurice Evans to constitute the Commission to determine the modification request.

**1.1 Summary of Development Application**

The modification request proposes to install and operate a mobile diesel-powered crushing system within the existing Calga Sand Quarry pit. The indicative location of the proposed crushing system is shown on **Figure 1** below.



**Figure 1: Proposed crusher location** (Source: Department’s assessment report)

The modification does not seek to extract more than 400,000 tonnes per annum (tpa) which is consistent with the quarry's current approval. The modification request does not seek to amend the quarry life, operating hours, water usage, extraction depth or heavy vehicle movements. As shown on **Figure 1**, the proposed crushing system would be located on already disturbed land within the quarry site.

### **1.2 Need for Modification**

The proponent's Environmental Assessment (EA) states that the *"installation and operation of a crushing system is necessary to maximise the recovery of extractable friable sandstone from the remainder of Stage 3 of the Quarry"*. Currently, the proponent extracts the friable sandstone by bulldozer. The sandstone is ripped, crushed and pushed up and is then processed at one of two plants on the site.

The modification would retain the primary extraction process but reduce the secondary processes of ripping the sandstone and crushing it with a bulldozer. Installation of the crushing system would reduce the need for the bulldozer to rip and crush the sandstone multiple times reducing the quantity of material classified as 'oversize' which cannot be processed under the current operating methods. It would increase efficiency and reduce the level of 'oversize' quarry material to be disposed of on site.

The modification would improve the yield of processed quarry products, increasing the amount of saleable product that could be despatched to the market.

### **1.3 Background**

The Calga Sand Quarry was originally approved by the NSW Land and Environment Court (LEC) in July 1991. The LEC approved extraction Stages 1 and 2 which continued to operate until December 2004 when the sand resources were exhausted and the consent expired. A further application to extend operations northwards onto Stage 3 was determined on 28 October 2005 and sand extraction commenced within Stage 3.

The previous owner of the site, Rocla Pty Ltd, sought approval to extend the extraction and processing operations south of the site in two separate pits (Stage 4 and 5), known as the 'Southern Extension Project'. Rocla submitted an Environmental Assessment for the proposed expansion in November 2009, which sought to increase the quarry's production rate from 400,000 tpa to 1 million tpa. The application was approved by the Commission on 23 December 2013 and was later refused on appeal by the LEC on 17 November 2015.

The LEC refused the extension project on Aboriginal cultural heritage grounds, as it was considered to pose significant impacts to a nearby Aboriginal women's site (the Women's Site) and potential Aboriginal heritage sites and items within the proposed additional extraction areas.

## **2. DEPARTMENT'S ASSESSMENT REPORT**

The Department's assessment report identified noise, air quality and Aboriginal cultural heritage as the key potential impacts associated with this modification.

The Department concluded that the proposed crushing plant represents a minor change to the processing operations of the existing quarry which is predicted to have negligible additional impacts on the surrounding residents and environment, including the Aboriginal cultural heritage landscape. The Department concluded that subject to the imposition of updated and contemporary conditions, the modification can be carried out with minimal environmental impact.

### **3. COMMISSION'S MEETINGS AND SITE VISIT**

As part of its assessment of the proposal, the Commission met with the Department and the proponent, and visited the site. The Commission also conducted a public meeting in Peats Ridge. Summaries of each of these meetings are provided in **Appendix 1**.

#### **3.1 Briefing from the Department**

On 9 May 2017, the Department briefed the Commission on the modification and the content of its assessment report. Specifically, the Department outlined the purpose of the modification, the previous Southern Extension Project, the LEC refusal and the relevant Aboriginal cultural heritage matters. The Department also provided an overview of the quarry's existing consented regime, including truck movements, site rehabilitation and water management.

#### **3.2 Briefing from the Proponent and Site Visit**

On 25 May 2017, the Commission met with the proponent and visited the site. The proponent briefed the Commission with regards to existing site operations, the proposed installation of the crushing system, rehabilitation, consultation and Aboriginal cultural heritage matters. The briefing was followed by an inspection of the quarrying operations at the site.

#### **3.3 Meeting with Central Coast Council**

The Commission offered to meet with Central Coast Council (Council) as part of the determination process however, this was declined by Council.

#### **3.4 Public Meeting**

The Commission held a public meeting at the Peats Ridge Public School Community Hall on 25 May 2017 to hear the public's views on the proposal. A list of the nine speakers that presented to the Commission is provided in **Appendix 2**. A summary of the issues raised by the speakers and provided in written submissions is provided in **Appendix 3**. In summary, the main issues of concern include:

- current quarry operations;
- noise and vibration;
- water management;
- ecology;
- Aboriginal cultural heritage;
- rehabilitation; and
- consultation.

### **4. ADDITIONAL INFORMATION**

The Commission requested and received additional information from the Department on aspects of the modification. The additional information is considered below and provided in **Appendix 4**.

### **5. COMMISSION'S CONSIDERATION**

In this determination, the Commission has considered carefully:

- all information provided by the proponent;
- the Department's assessment report;
- advice and recommendations from government agencies; and
- relevant matters for consideration under section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Commission has reviewed and accepts the Department's assessment and recommendations in respect of matters including rehabilitation, water requirements and visual impacts.

The key matters considered further by the Commission include Aboriginal cultural heritage, noise impacts and air quality. The Commission has also addressed concerns raised in the verbal and written submissions to the public meeting in relation to groundwater and transport. This is discussed in **Section 5** of this report.

### **5.1 Aboriginal Cultural Heritage**

The Commission heard concerns at the public meeting and in submissions regarding the potential for the modification to impact on the Women's Site and the cultural heritage values and landscapes in the area. The potential for vibration to impact on the structural integrity of the cultural heritage items associated with the Women's Site and the LEC refusal of the Southern Extension Project were raised as key concerns at the public meeting.

The proponent's Response to Submissions (RtS) report identifies the location of the crusher and its proximity to the Aboriginal cultural heritage sites. The Women's Site is located approximately 360 metres from the proposed location of the crushing system and approximately 90 metres from the quarry boundary. The Women's Site is located on land owned by the proponent. The RtS considered the potential impact of noise, vibration, dust, visibility and light intrusion on the cultural landscape. It concluded that any impact would remain within the existing approved limits and would not result in damage to the Women's Site.

The Department's assessment report considered Aboriginal cultural heritage and assessed the potential for noise, vibration and air quality impacts as a result of the modification. It also considered the LEC judgment and the relevant management and mitigation measures.

In its submission to the Department regarding the proponent's RtS, the Office of Environment and Heritage (OEH) stated it had previously advised the Department (29 August 2016) that the modification would not result in additional impacts to Aboriginal cultural heritage and that it had no further comment to make. The OEH stated *"the proposed crushing system will not exceed previously established parameters for the project, and acknowledges that harm to Aboriginal cultural heritage values within the operating footprint of the quarry have been assessed as low/unlikely"*.

In addition, the OEH's submission on the RtS states that it had received an Aboriginal Place nomination from the Darkinjung Local Aboriginal Land Council (DLALC) in 2010. In response to the place nomination, the OEH commissioned a Cultural Heritage Assessment (CHA) report in 2016 to further understand the social significance and the intangible cultural values of the Calga cultural landscape. The CHA found that: *"the Calga Aboriginal Women's engraving site and the surrounding landscape are of social, cultural, spiritual and scientific significance when assessed both under the National Parks and Wildlife Act 1974, and the against the significance criteria of the Heritage Act 1977"*, concluding that *"the entire Calga cultural landscape contains social, scientific and educational value and should not be harmed"*.

The Commission sought advice from the Department regarding the status of the Aboriginal Place nomination. The Department confirmed that the OEH is currently negotiating with key stakeholders including land owners and the Aboriginal community regarding the place nomination. Following these negotiations, the OEH will present the nomination and associated information to the State Heritage Register Committee (SRHC). The SHRC will then consider whether to support the nomination.

Concerns were raised at the public meeting regarding the potential for vibration to impact on the structural integrity of the cultural heritage items associated with the Women's Site. The Department's assessment report states that the proponent used vibration measurements for the existing processing plant to model vibration impacts at the Women's Site. The site was predicted to experience less than 0.5 millimetres per second (mm/s) peak particle velocity (ppv). The Department concluded that whilst there was some uncertainty whether vibration criteria would formally apply to the site, the recommended maximum level for ground vibration is 5 mm/s ppv. Accordingly, the level of vibration predicted at the Women's Site is significantly lower than what may be considered acceptable.

Notwithstanding, the Commission observes that vibration impacts are not addressed within the consent and therefore are not subject to future auditing or adaptive management. To address this issue the Commission recommends a further condition requiring the proponent to prepare a condition report for the Women's Site, and to monitor ground vibration levels for 12 months following installation of the crushing system, and after 12 months of operating the crushing system, to ensure appropriate monitoring of these sites and to require adaptive management, should an exceedance arise (Condition 41, 42, 43, Schedule 3).

The proponent does not currently have an Aboriginal Heritage Management Plan, therefore the Department considered that a condition to require the proponent to prepare a management plan *"would allow for appropriate management of Aboriginal cultural heritage within and surrounding the existing quarry"*. The OEH provided comments on the Department's draft conditions and supported the approach. The condition requires that the management plan be prepared in consultation with OEH and relevant Aboriginal parties. It also requires identification of potential archaeological deposits and a description of the processes undertaken to identify the appropriate site for monitoring ground vibration levels, installation and maintenance of the vibration monitoring equipment and the methods used to predict the vibration levels at the Women's Site. The condition requires that the proponent undertake 'reasonable and feasible' measures to reduce intrusive noise at the Women's Site while it is in use. The condition also requires the proponent to describe the measures that would be implemented to protect and monitor known archaeological and cultural sites, manage any new discovered sites, store Aboriginal items salvaged on site and ensure ongoing consultation and involvement of the relevant Aboriginal parties (Condition 44, Schedule 3).

The Commission requested an amendment to condition 44 requiring the management plan be prepared prior to commencement of the works to install the crushing system. The Commission finds that amending the timing of the condition to pre-commencement would ensure that the proponent has established the appropriate measures ahead of commencing works associated with the modification.

In addition, the Department's adaptive management condition (Condition 6, Schedule 5) requires the proponent to assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures set out in Schedule 3 of the consent. This allows the consent authority to give appropriate consideration to uncertain and/or unpredictable impacts, the proposed mitigation strategies and relevant performance criteria, with the knowledge that the project operator is required to operate in a state of constant monitoring and process improvement, to ensure that exceedances of criteria or standards are avoided.

In summary, the Commission finds that the modification would not result in direct impacts to Aboriginal cultural heritage sites, given that the modification does not include additional disturbance outside the existing quarry boundary. Subject to the Commission's requested amendments, the Commission is satisfied that the potential impacts of the project can be managed appropriately through the recommended conditions of consent.

## **5.2 Noise**

The Commission received submissions that raised concerns regarding potential noise impacts as a result of the modification.

The proponent's EA included an assessment of noise impacts based on the measured background noise levels at residences in the vicinity of the quarry site. Sample noise measurements were taken on-site during a trial of a diesel-powered mobile crushing system at the quarry.

The Department's assessment report identifies the noise impact criterion for all surrounding receptors as detailed under the existing consent. The noise predictions presented in the proponent's EA used the noise model prepared for the Southern Extension Project, with the inclusion of the crushing system. The assessment provided noise level predictions for the crushing system alone at the two closest receivers, which predicted a noise level of approximately 30 dB(A) at these receivers. The Environmental Protection Authority (EPA) requested clarification on the modelled noise scenario, which the proponent provided. Additional information was included in the RtS regarding the operational conditions during attended noise monitoring and justification of the crushing system's predicted noise level. The EPA was satisfied with the additional information and did not request any further information.

The Department's assessment report noted that proposed location of the crushing system within the quarry pit at the base of an existing extraction face, would provide some natural noise attenuation. The assessment indicates that the noise levels generated by the quarry with the addition of the crushing system would meet the existing criteria for all receptors, except at Receptor 8, where an exceedance of 1 dB(A) is predicted during the day.

The existing consent's noise impact criteria was first established in 2005. Subsequently, new rating background levels (RBLs) were established for four receptors. The assessment for the modification identified that RBLs had increased since they were first established in 2005. The Department's assessment report noted an opportunity to set new noise criteria in line with the revised project RNLs, an approach supported by the EPA. Importantly, the assessment determined that noise levels generated by the existing approved operations combined with the proposed crushing system would remain compliant with the existing daytime noise limits. The EPA subsequently recommended that no changes be made to existing noise criteria except at Receptor 8, where daytime noise would be reset to 36 dB(A) which represents an increase of 1dB(A).

The Commission agrees with the Department that the noise assessment is acceptable and any predicted impacts can be managed in accordance with the requirements of a contemporary Noise Management Plan and the existing Environmental Protection Licence. The Commission notes that Condition 4 (Schedule 5) requires relevant management plans to be reviewed within three months of the approval of this modification request, to the satisfaction of the Secretary and the outcomes of the review to be provided to the Secretary within four weeks of conducting the review. The Commission finds this would allow appropriate updates to be made to the relevant management plan before the crusher is operational and appropriate monitoring and management once the crushing system is operational.

## **5.3 Air quality**

The Commission received submissions that raised concern regarding impacts to air quality and that the assessment addressed PM<sub>10</sub> impacts only and did not consider PM<sub>2.5</sub> impacts. A further submission identified that the assessment was modelled on an air-shed in Western Sydney and not on the quarry.

The proponent's EA included the assessment of air quality impacts used for the Southern Extension Project, which assumed two crushing systems as well as extraction areas. The Department was therefore satisfied that its utilisation for assessment of this modification provided a conservative prediction of the potential impacts of the crushing system. In addition, the EPA was satisfied with the assessment of air quality impacts for the proposed project.

The Commission sought clarification from the Department regarding the issues raised in submissions. The Department's response clarified that at the time of the Southern Extension Project, PM<sub>2.5</sub> was an advisory reporting standard and not part of the air quality impact assessment criteria. However, the assessment in the Southern Extension Project considered the distribution of PM<sub>2.5</sub> particles in the total suspended particles (TSP). Based on the maximum cumulative annual average, TSP emissions predicted the PM<sub>2.5</sub> derivative would be substantially less than the current criteria for annual average PM<sub>2.5</sub>.

With regards to the modelling, there was no continuous data available for the quarry at the time of the Southern Extension Project. The data collected on site was compared with the continuous data recorded at the Richmond monitoring station as the concentrations of data collected on the site was similar and was considered in determining the background concentrations that would apply for the project. The EPA was satisfied with this approach and the use of this assessment for the modification.

The Commission agrees with the Department that the air quality impact assessment is acceptable and any predicted impacts can be managed in accordance with the requirements of a contemporary Air Quality Management Plan. Condition 8, Schedule 3 sets particulate matter emission limits in relation to PM<sub>10</sub>, requiring the proponent to ensure all reasonable and feasible avoidance and mitigation measures are employed to ensure criteria limits are not exceeded. In addition, Condition 4, Schedule 5 requires relevant management plans to be reviewed within three months of the approval of this modification request, to the satisfaction of the Secretary, and the outcomes of the review to be provided to the Secretary within four weeks of conducting the review. The Commission finds that this would allow appropriate updates to be made to the relevant management plan before the crushing system is operational and appropriate monitoring and management once the crushing system is operational.

## **6. COMMISSION'S RESPONSE TO COMMUNITY ISSUES**

Speakers and written submissions to the public meeting raised a number of concerns regarding the issues discussed above. Some additional concerns were also raised including the potential for the project to impact on groundwater and transport matters.

### Groundwater

Concerns were raised at the public meeting regarding the potential for the modification to impact on groundwater. Queries were raised by the community regarding aquifer interference and whether this had been assessed. Further questions were raised regarding how much deeper quarrying can go and whether a depth had been determined in relation to the groundwater table. The Commission requested further information from the Department in relation to the queries raised.

The Department confirmed that the proponent's 2004 Environmental Impact Statement (EIS) proposed an indicative depth of extraction ranging between 180-190 Australian Height Datum (AHD). The range reflected the availability of the resource that could be extracted using the ripping methods proposed by the proponent. The Department confirmed that the resource below this depth was considered unlikely to disaggregate into free sand grains and the extraction depth had been determined by the depth of crushable ('friable') sandstone.

The EIS indicated a groundwater table depth varying between 170 metres AHD and 208 metres AHD (an average depth of 195.9 metres). Accordingly, intersection of the groundwater table was predicted. The Department confirmed that no specific depth was proposed by the previous operator in relation to Stage 3, nor was a condition of consent imposed regarding extraction depth. Notwithstanding, Condition 2(b) of Schedule 2 of DA 94-4-2004 requires the proponent to carry out the development in accordance with the EIS and this has been carried over in the conditions of consent for this modification.

In addition, groundwater monitoring is a requirement under the water management plan for the site. The Department confirmed that in its 2016 Annual Review, the proponent reported minimal impact on the local groundwater system and water levels were consistent with trends observed in the past.

Accordingly, the Commission is satisfied that the necessary conditions are in place to control the depth of extraction and to require the proponent to monitor its impact on groundwater in accordance with the existing consent conditions.

#### Transport

The community raised concerns that the modification would lead to an increase in truck movements. The Commission requested additional information from the Department regarding the number of truck movements permitted under the existing consent. The existing consent allows no more than 400,000 tpa to be transported from the site. The EIS for the current approved operation predicted up to 100 truck movements (in and out) Monday to Friday and 32 truck movements on Saturdays.

The Commission requested information from the Department regarding whether the quarry was currently operating at its maximum extraction rate of 400,000 tpa and the Department confirmed that in 2016 the proponent transported 387,258 tonnes of quarry product from the site, sourced from the Annual Environmental Management Reports.

During the meeting with the proponent, it was confirmed that it would not be increasing the number of truck movements beyond the current approved limits. The Department and the Commission consider that requiring the proponent to prepare and implement a Driver's Code of Conduct would be an appropriate addition to the consent conditions and provide greater consistency with contemporary conditions of consent for similar types of development. A Driver's Code of Conduct would ensure the proponent is accountable for the behaviour of its drivers and would ensure it appropriately manages its trucking fleet and any contractors engaged by the company.

### **7. COMMISSION'S FINDINGS AND DETERMINATION**

The Commission carefully considered the proponent's proposal, the Department's assessment report and the relevant matters under section 75W of the EP&A Act. The Commission has noted the advice and recommendations from government agencies including the EPA and OEH. Finally, the Commission has heard from members of the community about their concerns for the proposal during the public meeting in Peats Ridge.

The Commission considers the modification to install a crushing system within the footprint of the existing quarry does not fundamentally change the nature of the development in its approved form. In the Commission's view, the proposed changes are within the scope of section 75W and may be considered under section 75W.

The Commission has responded to concerns expressed by the public, while noting that a number of those issues do not relate to substantive aspects of the proposal or its potential impacts.



For the reasons set out above, the Commission accepts the Department's recommendation that this modification request be approved, subject to the conditions set out in the notice of modification.



**Stephen O'Connor (Chair)**  
**Member of the Commission**



**Paul Forward**  
**Member of the Commission**



**Dr Maurice Evans**  
**Member of the Commission**

**APPENDIX 1  
RECORDS OF COMMISSION MEETINGS**

**Notes of Briefing from the Department**

<b>This meeting is part of the Determination process.</b>		
<b>Meeting note taken by</b> Alana Jelfs	<b>Date:</b> 9 May 2017	<b>Time:</b> 2:30pm
<b>Project:</b> Calga Sand Quarry Modification 3 (DA 94-4-2004)		
<b>Meeting place:</b> Planning Assessment Commission (PAC Office)		
<p><b>Attendees:</b>            Commission Members: Stephen O'Connor (Chair), Paul Forward and Dr Maurice Evans            Commission Secretariat: David Koppers (Team Leader) and Alana Jelfs (Planning Officer)            Department of Planning and Environment: Oliver Holm (ED Resource Assessments &amp; Compliance), Matthew Sprott (Team Leader, Resource Assessments) and Gen Seed (Planning Officer)</p>		
<b>The purpose of the meeting:</b> For the Department to brief the Commission on the Project		
<p><b>Meeting notes:</b>            The Department raised the following matters:</p> <ul style="list-style-type: none"> <li>• General project overview               <ul style="list-style-type: none"> <li>- Currently, quarry product is ripped and crushed using bulldozers. This Modification application seeks to install a new crushing system to improve product yield</li> <li>- Improvement in yield will generate 20% additional saleable product, some will be used as capping material</li> <li>- Proponent operating within the current approved extraction limit of 400,000 tonnes per annum</li> <li>- No current compliance issues reported to the Department</li> </ul> </li> <li>• Transport               <ul style="list-style-type: none"> <li>- No increase truck movements proposed as part of the Modification.</li> <li>- Current approval allows 100 movements Monday to Friday (one in one out) and 32 movements on Saturdays.</li> <li>- The existing haulage is based on the consented extraction limit of 400,000 tonnes per annum, and not based on truck numbers. The proponent is operating at the existing limits. The Department to provide details of reasons for setting the current extraction limit of 400,000 tonnes per annum.</li> <li>- Proponent has a mixed vehicle fleet. Number of trucks is based on average load.</li> </ul> </li> <li>• Noise               <ul style="list-style-type: none"> <li>- Negligible increase of 1dB(A) at receiver 8 (3 Jones Road) but would not be discernible to the human ear</li> <li>- Some natural acoustic attenuation provided on site due to proposed location of the crusher at the face of extraction wall</li> <li>- Noise concerns are more related to the transport of quarry product by road and proximity to the M1 Motorway</li> </ul> </li> <li>• Aboriginal cultural heritage /consultation               <ul style="list-style-type: none"> <li>- The Department considered the Land and Environment Court judgment in its assessment and were satisfied that the proposed Modification would not impact on the Aboriginal Women's Site. The Darkinjung Local Aboriginal Land Council (DLALC) is currently seeking a place nomination for the Women's Site</li> <li>- The Department considers the requirement to prepare and implement an Aboriginal Cultural Heritage Management Plan in consultation with the Aboriginal community will ensure appropriate management of the Women's Site</li> </ul> </li> </ul>		

- The Proponent owns the land that contains the Women’s Site. The DLALC, or whoever wishes to gain access to the site are required to give reasonable notice to the landowner (the Proponent) so they can ensure operations at the quarry do not interfere with the use of the site.
- DLALC did not object to the proposed Modification.
- The Department contemporised conditions to ensure the rehabilitation responds to the cultural landscape.
- Rehabilitation
  - Stability of the quarry walls will be key to effective rehabilitation.
  - The Proponent will need to progressively rehabilitate the site to ensure site drainage is managed appropriately.
- Community consultation
  - A number of submissions raised dissatisfaction with community consultation for the Modification.
  - The Department requested that the Proponent re-consult the community to address. Its Response to Submissions provided greater clarity around the scope of the Modification.

**Outcomes/Agreed Actions:** The Department to provide details of reasons for setting the current extraction limit of 400,000 tonnes per annum.

**Meeting closed at 3:30pm**

## Notes of Briefing from the Proponent

<b>This meeting is part of the Determination process.</b>		
<b>Meeting note taken by</b> Alana Jelfs	<b>Date:</b> 25 May 2017	<b>Time:</b> 12pm
<b>Project:</b> Calga Sand Quarry – Mod 3		
<b>Meeting place:</b> Hanson Sand Quarry, 2256 Peats Ridge Road, Peats Ridge		
<b>Attendees:</b> Commission Members: Stephen O’Connor (Chair), Paul Forward, Dr Maurice Evans Commission Secretariat: David Koppers (Team Leader) and Alana Jelfs (Planning Officer)		
<b>The purpose of the meeting:</b> For the Proponent to brief the Commission on the project		
<b>Meeting notes:</b>  The following matters were discussed: <u>Overview of quarry operations</u> <ul style="list-style-type: none"> <li>• Mining of Stage 1 and 2 is complete. Currently mining Stage 3.</li> <li>• The proponent took over the site from former operator Rocla in January 2016.</li> <li>• The quarry produces concrete sand and mortar sand.</li> <li>• The purpose of the modification is to install and operate a new crushing system to improve yield and quality of the saleable product and to minimise product waste and reduce costs.</li> <li>• The proponent undertakes sand quality testing at its Kulnura site.</li> <li>• Completed silt cells are capped with overburden and oversized friable sandstone. This practice will continue to be used for rehabilitation on-site.</li> <li>• Currently, as quarrying gets deeper, product yield declines to approximately 50% of what is extracted.</li> </ul> <u>Current practice</u> <ul style="list-style-type: none"> <li>• Sandstone is ripped with a bulldozer to break the rock, which is energy intensive.</li> <li>• Life of the mine using the current practices is approximately 3-5 years. With the crusher, this is likely to extend to 5-10 years.</li> <li>• The bulldozer rips, crushes and pushes the sandstone up, using 100 litres of fuel an hour. The crusher would use just 30-50 litres of fuel an hour, processing the sandstone more quickly and efficiently.</li> <li>• The site relies on rainwater, using 90% recycled water. The bore feeds site amenities and the site has reasonable storage area.</li> <li>• The crusher would not change water requirements on the site.</li> <li>• No increase truck movements beyond existing consent (400,000 tonnes per annum extraction limit).</li> </ul> <u>Crushing systems</u> <ul style="list-style-type: none"> <li>• Crushers are supplied by 6 major manufacturers globally.</li> <li>• The proponent is considering the most appropriate crusher system for its purpose and will trial a number of systems to determine the most efficient option if approval is granted.</li> <li>• The proponent has the crushing equipment and would implement the system immediately if approval is granted.</li> </ul>		

- The crushing system would retain the primary process but reduce the secondary process of ripping the sandstone, increasing efficiency, reducing fossil fuel consumption and reducing the waste material to be disposed of on site.

Rehabilitation

- Requires managing the oversize material to enable appropriate rehabilitation objectives. Cells are capped with silts and benches regraded.
- Final landform will be grassed and made free draining to fall toward natural drainage lines.

Consultation

- The proponent currently refers complaints to the Community Consultative Committee (CCC). Complaints are generally around road noise (unladen trucks), delivery times, truck driver behaviour and 24-hour site operations.
- The proponent is increasing its truck fleet and working to ensure its drivers and any contractors display appropriate driver behaviour to address community concerns.

Heritage

- The proponent owns the land south of the quarry which contains significant Aboriginal sites.
- The quarry land is on Darkinjung and Guringai country.
- Access to these sites are coordinated with the Darkinjung contact Sharon Hodgetts.
- In the past the quarry owners had been requested to provide a track to some of these sites, however this was not agreed to given the risk of vandalism.
- There are monitoring bores in proximity to the Aboriginal sites, but access is limited.
- An Aboriginal Cultural Heritage Management Plan will be prepared as part of this modification. A meeting with the Darkinjung contact will be arranged to discuss preparation of the management plan.

**Outcomes/Agreed Actions:**

N/A

**Meeting closed at 1:15pm**

**APPENDIX 2  
LIST OF SPEAKERS**

**Planning Assessment Commission  
Calga Sand Quarry – Modification 3**

Date and Time: Thursday 25 May 2017, 2:30pm

Place: Peats Ridge Public School Community Hall, 1231 Peats Ridge Road, Peats Ridge NSW  
2250

**List of Speakers**

1. Doug Williamson (Central Coast Greens)
2. Gerald Barnard
3. Tassin Barnard (Walkabout Wildlife Conservation Foundation)
4. Catherine Barnard
5. Lynelle Hamilton
6. Sharon Hodgetts (Darkinjung Local Aboriginal Land Council)
7. Kelia Keogh
8. Tracey Howie
9. Dr. David Pross

**APPENDIX 3**  
**SUMMARY OF ISSUES FROM WRITTEN AND VERBAL SUBMISSIONS TO THE PUBLIC MEETING**

<b>This meeting is part of the Determination process.</b>		
<b>Meeting note taken by</b> Alana Jelfs	<b>Date:</b> 26 May 2017	<b>Time:</b> 2:30pm
<b>Project:</b> Calga Sand Quarry – Mod 3		
<b>Meeting place:</b> Peats Ridge Community Hall, 1231 Peats Ridge Road, Peats Ridge		
<b>Attendees:</b> Commission Members: Stephen O’Connor (Chair), Paul Forward, Dr Maurice Evans Commission Secretariat: David Koppers (Team Leader) and Alana Jelfs (Planning Officer)		
<b>The purpose of the meeting:</b> Public meeting to hear community views on the project		
<b>Meeting notes:</b> Comments made during the public meeting and in written submissions are synthesised and summarised below.		
<u>General</u> <ul style="list-style-type: none"> <li>• Comments regarding the time of the meeting and number of people unable to attend due to work commitments.</li> <li>• Significance of some impacts cannot be managed through conditions of consent.</li> <li>• Not opposed to the quarry operating within its existing conditions of consent.</li> <li>• Concerns that the proponent will increase production beyond the maximum 400,000 tonnes per annum.</li> <li>• Pre-commencement testing should be undertaken to determine trigger levels. This has not been proposed in this application.</li> </ul>		
<u>Quarry operations</u> <ul style="list-style-type: none"> <li>• Queries raised regarding the volume of resource available within the quarry site and whether it is coming from exhausted quarry cells.</li> <li>• Concerns that the quarry will become a central processing plant for other local quarries/ mines.</li> <li>• Queries regarding the consequences for exceeding limits imposed in existing consent monitoring and compliance with approved management plans.</li> <li>• Monitoring by a third party should be undertaken at the proponent’s expense.</li> <li>• Concerns raised over existing compliance with environmental standards.</li> <li>• Concerns raised regarding the depth of quarrying. A maximum depth should be stipulated to avoid environmental harm and ensure the proponent does not exceed maximum extraction limit.</li> <li>• Adding the crusher will increase truck movements.</li> </ul>		
<u>Noise and vibration</u> <ul style="list-style-type: none"> <li>• Noise assessment and limits imposed are based on averages and do not account for abrupt/sudden noise.</li> <li>• Adjoining Walkabout Park is required to relocate workshops, a key part of its business.</li> <li>• Noise is particularly bad at night.</li> <li>• Changing noise limits should only be considered following appropriate assessment.</li> <li>• Vibration modelling used for the assessment is based testing of buried pipes.</li> <li>• Vibration causes splitting and has potential to cause damage, particularly to Aboriginal sites.</li> <li>• Hawkesbury sandstone is hard and brittle and crushing will cause vibration impacts.</li> </ul>		

### Water

- Queries raised regarding whether the project will comply with management plans required as part of its existing approval.
- Concerns raised regarding impacts on groundwater and aquifer interference.
- Concerns over water shortage in the area and diminishing water supply. How can the proponent alter operations without taking more water?
- The proponent should be required to assist its neighbours with water supply.
- Concerns regarding the cumulative impacts on neighbouring properties, particularly water supply.

### Ecology

- Concerns raised regarding endangered species immediately adjacent to the quarry.

### Heritage

- The quarry is on Darkinjung, Guringai and Awabakal country.
- Concerns raised regarding the impacts on Aboriginal cultural heritage and the cultural landscape of the area.
- The previous application was approved by the Commission and overturned by the Land and Environment Court (LEC) on heritage grounds. The proposal will impact on the cultural significance of the Aboriginal Women's Site and the broader cultural landscape. Aboriginal sites should be protected.
- The Women's Site south of the quarry is significant to Aboriginal people and has been nominated as an "Aboriginal Place". The Office of Environment and Heritage (OEH) is currently in the process of assessing this nomination.
- The Environmental Protection Authority (EPA) queried whether the Women's Site should be considered a place of worship for the purpose of assessing impacts in accordance with the Industrial Noise Policy.
- Darkinjung consider the site to be a sensitive receiver.
- The proponent has committed to prepare an Aboriginal Cultural Management Plan in consultation with the Aboriginal community, but this has not been done.
- The assessment does not clearly identify which Aboriginal sites have been assessed as there are many.
- The impact of vibration and dust on Aboriginal sites is not clear as monitoring has not been undertaken from the sites, which are susceptible to changes in micro-climate, landforms, removal of vegetation and water shortages.
- Recommendation from the LEC judgment should be considered by the Commission.
- The Commission should consider the importance of Aboriginal sites, what they mean to Aboriginal people and all Australians.
- The precautionary principle should be applied.
- Further investigation and monitoring is required for hanging swamps and stone arrangements.

### Rehabilitation

- Auditor-General report recently released states there are not adequate financial assurances associated with mine site rehabilitation. What mechanism exists to ensure the quarry is rehabilitated?
- The Secretary of the Department of Planning and Environment has stated that current operations are responsible for rehabilitation and all mines are required to lodge a security bond to cover cost of rehabilitation.

### Consultation

- Consultation on the proposed modification has been inadequate.
- Letterbox drops informing the community of this project did not involve consultation with the Darkinjung Local Aboriginal Land Council.

**Meeting closed at 3:50pm**