

# CLARIFICATION OF GROUNDWATER MATTERS

ADDITIONAL INFORMATION:  
ENVIRONMENTAL IMPACT STATEMENT

## ATTACHMENT

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EHB/eb (Gold Coast Quarry)  
22 October 2013

Cardno HRP  
Suite 15, 3029 The Boulevard,  
Emerald Lakes,  
Carrara, QLD 4211

ATT: Scott Clarke (Senior Planner)

Dear Scott,

### **RE: GOLD COAST QUARRY – ADDITIONAL INFORMATION TO THE EIS**

From the review of the submissions received during the advertising period, the following key matter was identified as requiring further clarification:

*Confirmation of whether seasonal monitoring of groundwater levels has occurred for the purposes of the EIS.*

The response to this key matter is provided below.

It is correct that seasonal monitoring of groundwater levels has not been undertaken and that groundwater levels have been measured at only two separate points in time. However the site is a greenfield site and as such long term monitoring of groundwater levels and surface flow was not possible prior to submission of the EIS. However in considering the need for monitoring the Groundwater Impact Assessment report<sup>1</sup> concluded (Section 15.2), that groundwater is not a significant resource in the Study Area on which groundwater users, human or groundwater dependent ecosystems (GDE's) are dependent. The closest bore listed on the DNRM database is located at the Gold Coast City Council Sports Field, about 800m south-east of the disturbance footprint and the next closest are two bores located approximately 1.5 km southwest of the site, and a group of four bores located about 1.5 km to the north of the site. With the exception of Council's Sports Field bore the registered bores appear to be primarily used for domestic (garden watering), supplies. The flora and fauna impact assessment (Appendix X of EIS), concluded that with respect to GDE's "*none of the ecosystems present within the study area are identified as communities that are dependent on groundwater*". This was re-confirmed by David Francis of Cardno Chenoweth on the 7 August 2013.

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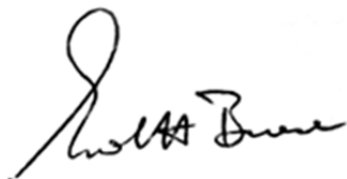
<sup>1</sup> Australasian Groundwater and Environmental Consultants Pty Ltd (April 2013), "Groundwater Impact Assessment of Proposed Gold Coast Quarry" Project No. G1612. (Appendix FF of the EIS)

Based on this assessment of groundwater usage at the site and surrounds the Groundwater Impact Assessment<sup>1</sup> (section 11.3.8), concluded that in accordance with Part 3, Section 6 of the Environmental Protection (Water) Policy (2009), the prime environmental value of groundwater within the Project area that may need to be enhanced or protected under this policy would be that for “agricultural use” in the form of garden watering from privately owned bores. However, as stated, the Council bore is the only bore in the near vicinity of the quarry and it is in the perched aquifer and it is unlikely to be impacted. Therefore a groundwater management and monitoring plan was not designed for the EIS as it was shown, as summarized above, that groundwater is not a significant resource in the Study Area on which groundwater users (human or GDEs) are dependant, and that the impacts of the quarry on the groundwater regime are minimal. As such the potential for groundwater related environmental or social impact occurring as a result of the development is considered negligible and therefore it is considered that groundwater monitoring is not warranted.

The Council bore is the only bore that may be impacted, although considered unlikely, and in the absence of undertaking groundwater monitoring Boral have committed (section 14.2 of the Groundwater Impact Assessment<sup>1</sup>), to obtaining details and the status of bore prior to commencement of operations, so that if required a “Make Good Agreement” can be made in the unlikely event that it is impacted. Section 13.1 of the Groundwater Impact Assessment<sup>1</sup> states that the remaining existing groundwater bores within the predicted impact zone are at the extremity of the impact zone and are unlikely to be impacted for an estimated 44 years and that the impact in terms of drawdown, should it occur, would be minimal and within the natural range of groundwater fluctuation. Therefore it is not necessary to obtain the status of these bores.

In summary it is considered that groundwater monitoring is not required given that groundwater is not a significant resource, and that with the exception of the Council bore, which is unlikely to be impacted, there is no dependence on groundwater by ecosystem or humans. If the Co-ordinator General were to insist on groundwater monitoring it is considered that one year of monitoring at three month intervals would be sufficient to provide baseline data on fluctuating groundwater levels and the linkage between groundwater and the creeks, and that this monitoring need only commence 12 months prior to commencement of works on the site.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Errol H Briese'.

**ERROL H BRIESE**  
Consultant Hydrogeologist  
Australasian Groundwater and Environmental Consultants Pty Ltd