



## Department of Primary Industries

OUT17/16599

Ms Genevieve Seed  
Resource Assessments  
NSW Department of Planning and Environment  
GPO Box 39  
SYDNEY NSW 2001

genevieve.seed@planning.nsw.gov.au

Dear Ms Seed

**Brandy Hill Quarry Expansion (SSD 5899)  
Comment on the Environmental Impact Statement (EIS)**

I refer to your email of 28 February 2017 to the Department of Primary Industries (DPI) in respect to the above matter. Comment has been sought from relevant divisions of DPI. Views were also sought from NSW Department of Industry - Lands that are now a division of the broader Department and no longer within NSW DPI. Any further referrals to DPI can be sent by email to [landuse.enquiries@dpi.nsw.gov.au](mailto:landuse.enquiries@dpi.nsw.gov.au).

Recommendations are provided below for consideration in assessment of the proposal, with detailed discussion of key issues provided at **Attachment A**.

### Recommendations

- The following management plans should be developed in consultation with DPI Water:
  - Water Management Plan (see detailed comments at Attachment A);
  - Biodiversity Management Plan, including a vegetation management plan for riparian vegetation on site, specifically the 30 m buffer from Deadman's Creek (measured from the top of the high bank);
  - Quarry Closure and Rehabilitation Plan, including a monitoring program to detect any impacts of the final void, such as increased groundwater salinity; and
  - Erosion and Sediment Control Plan, including detail on sediment basin decommissioning.
- Works on waterfront land, including outlet structures for discharge points, should be designed and constructed in accordance with the DPI Water Guidelines for Controlled Activities.

Yours sincerely

Mitchell Isaacs  
**Director, Planning Policy & Assessment Advice**  
27 April 2017

*DPI appreciates your help to improve our advice to you. Please complete this three minute survey about the advice we have provided to you, here:*

<https://goo.gl/o8TXWz>

**Brandy Hill Quarry Expansion (SSD 5899)  
Environmental Impact Statement  
Detailed comments**

**Key issues****Licensing requirements**

Groundwater on site is now regulated under the *Water Management Act 2000* through the Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources, not the *Water Act 1912* as stated in the EIS. The proponents will be required to obtain sufficient entitlement in the New England Fold Belt Coast Groundwater Source to account for expected take prior to this take occurring.

Section 3.9 of the Surface Water Assessment states, 'Capture of surface water runoff within the quarry void is an authorised supply and is considered reliable'. It also states the development is consistent with the Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources (2009). Further information is required regarding this statement as clean water capture in excess of Maximum Harvestable Right may require licensing via the appropriate Water Access Licence (WAL) if not covered by an applicable exemption. Clarification is also required regarding catchment loss and impacts to streamflow (ML value) in the Williams River and Newcastle Water Sources under the water sharing plan, for all stages of the proposal.

Consultation with DPI Water is also required to determine licensing requirements for the existing quarry operations. The Water Management Plan should include a program to determine and verify licensing requirements for the duration of the project including water usage, transfer and discharge metering, water level monitoring (surface water storages and groundwater) and onsite meteorological monitoring.

**Groundwater impact assessment**

There are some uncertainties associated with the hydrogeological report that should be addressed through the development of a Water Management Plan in consultation with DPI Water ([water.referrals@dpi.nsw.gov.au](mailto:water.referrals@dpi.nsw.gov.au)). The key uncertainties include that the conceptual hydrogeology presented does not provide clarity on recharge and groundwater flow paths between aquifers on site, and it is also considered that the water level contour maps were not produced with sufficient clarity. Expanded monitoring is important to increase the understanding of the conceptual hydrogeology for input into the model.

This leads to uncertainty regarding potential impacts of the quarry pit post-mining, impacts to nearby groundwater users and potential impacts to groundwater dependent vegetation, including HU812 Forest Red Gum grassy open forest on floodplains of the Lower Hunter (PCT 1598) and HU591 Paperbark swamp forest of the coastal lowlands of the NSW North Coast Bioregion and Sydney Basin Bioregion (PCT 1064).

To address these concerns DPI recommends the Water Management Plan be developed in consultation with DPI Water. The plan should address the following:

- A program for expansion of the groundwater monitoring network to include the following (to the satisfaction of DPI Water):
  - an additional monitoring bore to monitor drawdown impacts for GW078135 and GW51309;
  - a private bore monitoring network including bores GW078135 and GW51309 (subject to access approval); and
  - clustered monitoring bores outside the mining area for continuous monitoring. These bores should be screened over individual aquifers;

- All bore construction and lithology logs for all monitoring bores in the network;
- A program to update the groundwater model to incorporate the expanded monitoring program and an updated hydrogeological report with detailed hydrogeological cross-sections, updated groundwater level and contour maps and detailed description all hydrogeological infrastructure. This report should include a schematic description of water tables and levels on site with explanation and discussion contextualising the sites hydrogeology relative to on site groundwater dependent vegetation communities. The report should also compare the outputs of the updated model with that presented in the EIS and include justification for the assertion in the EIS that groundwater take resulting from void inflows is expected to cease approximately 165 years post-closure, or a revised assessment of ongoing take;
- A Trigger Action Response Plan (TARP) for potential impacts to groundwater users, including:
  - Specific trigger for groundwater level in the monitoring bore targeting impacts on GW078135 and GW51309; and
  - Make good provisions for all impacted surrounding users, including basic landholder right users. Targeted consultation should be undertaken with the owner of GW078135 and GW51309 to discuss make good provisions
- A TARP for potential impacts to groundwater dependent ecosystems (vegetation communities HU812 and HU591)
- Installation of a temporary Class A evaporation pan and rain gauge on site to obtain data over a two year period to inform water balance modelling;
- Installation of automatic water level loggers in all monitoring bores and dams

### **Surface water impact management**

- The Water Management plan should include:
  - Monitoring of stream stability and geomorphic processes and a detailed TARP regarding bank erosion and stream bed composition impacts from discharge;
  - Detailed design of outlet structures and scour and erosion protection works which must be in accordance with DPI Water Guidelines. This should include detail on any required energy dissipation;
  - A figure showing any existing and proposed clean water diversions;
  - A figure showing the proposed expansion in relation to Deadman's Creek showing the proposed 30 m buffer and the top of the high bank;
  - Detail on impacts from existing operations on geomorphic stability, including in relation to discharge points. This should include good quality photographs of Deadman's Creek and tributaries of Barties Creek, provided from both an up- and downstream perspective and oriented (location and direction) on a sketch plan with the top of bank clearly identified. The GPS location of the photo points should also be provided. This is important to inform the TARP;
  - Demonstration of sufficient onsite storage capacity to minimise the potential for uncontrolled discharge; and
  - Clarification on whether a census was undertaken to ascertain whether there were any downstream surface water BLR users. This is important due to potential quality and quantity impacts downstream.

**End Attachment A**