

Summary of Mitigation Measures

Provided below is a summary of the updated mitigation measures to accommodate the proposed MOD 2 development.

1.0 Plans, Documents and Approvals

The development will be completed generally in accordance with the documentation and descriptions of the development provided in the Section 4.55(2) Modification Report (April 2026) prepared by ADW Johnson.

The development will be carried out in general accordance with Development Consent 265-10-2004.

2.0 Revision of Management Plans

The following Management Plans, as approved by the NSW Planning Secretary, will be updated to reflect the MOD 2 development:

- KHRQ Environmental Management Strategy and Monitoring Program.
- KHRQ Bushfire Management Plan.
- KHRQ Flora and Fauna Management Plan.
- KHRQ Rehabilitation and Closure Plan.
- KHRQ Site Water Management Plan.

A new section within the Environmental Management Strategy and Monitoring Program will be developed and implemented that details the administrative arrangements required to achieve compliance with the overlapping extraction areas between the Karuah Hard Rock Quarry and adjoining Karuah East Quarry (MP09_0175) and relevant consent conditions.

3.0 Noise

No additional noise mitigation measures are necessary for the proposed MOD 2 development.

The frequency of monitoring is proposed to be increased to quarterly monitoring (currently 6-monthly monitoring is completed), to achieve consistency with the monitoring regime for the KEQ to provide greater compliance confidence and streamlined reporting processes.

The Noise Monitoring Program within the established Environmental Management Strategy & Monitoring Program will be updated to include the proposed changes associated with MOD 2.

4.0 Blasting

No additional blasting mitigation or monitoring measures are necessary to facilitate the MOD 2 development.

5.0 Air Quality

No additional mitigation measures are necessary to facilitate the MOD 2 development.

Updated monitoring will be undertaken, as detailed below.

Updated Monitoring Program	
Updated Monitoring Program	An updated monitoring program will be incorporated into the established Air Quality Monitoring Program within the Environmental Management Strategy & Monitoring Program that will consist of: 1. One site specific meteorological station, at the current location. 2. Removal of dust depositional monitoring. 3. Provision of an additional HVAS monitor for PM_{2.5}, at the current location, for compliance purposes. 4. Two real-time air quality monitors capable of measuring PM₁₀ and PM_{2.5} and

	positioned on opposite sides of the KEQ to allow for the calculation of development contributions to air quality for ongoing management purposes.
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6.0 Surface Water

No additional surface water monitoring is necessary to facilitate the MOD 2 development.

Updated mitigation measures are detailed below.

Mitigation and Management Measures		
1. The existing in-pit sump will be proportionally upgraded in accordance with the below parameters:		
	Parameter	Value
	Predicted soil loss (m ³ /Ha/Year)	42
	Storage Zone ¹ (ML)	8.57
	Settling Zone (ML)	0.38
	Minimum Volume (ML)	8.95
2. A bund wall will be constructed on the Lot 11/12 boundary for the extent of the extraction area at the time the KEQ is extracted to approximately RL65m. Sizing will be subject to further detailed design. This information will be included in an update to the approved Site Water Management Plan (IEMA, 19 December 2024, Ver 8D).		
3. During Stage 2 of the extraction sequence, strategic blasting is to be undertaken to maintain westward flows in KHRQ and eastward flows in KEQ.		
4. Erosion and sediment controls will be implemented in accordance with the Blue Book Volume 2E (Mines & Quarries).		

7.0 Groundwater

No additional groundwater monitoring is necessary to facilitate the MOD 2 development.

Mitigation measures are detailed below.

Mitigation and Management Measures
- Benches and pit floor will be graded to promote drainage toward the entrance of the extraction area. - Minor seepage and ponding of water resulting from excessive rainfall/runoff will be managed by conventional drainage measures within the quarry such as periodic pumping of in-pit sumps out to the surrounding drainage controls. Water will be retained on-site for quarry operations and for environmental mitigation. - Refueling will be undertaken in the designated non-permeable refueling areas. - Runoff water from the site will be collected and monitored for environmental mitigation to prevent chemicals and hydrocarbons such as petroleum, diesel, and oil seeping into the groundwater system. - Handling and storage of fuel and oil within the project site will be in accordance with the Australian Standards, AS 1940-2004 (Storage and Handling of Flammable and Combustible Liquids) and NSW Work Cover 2005 Code of Practice for Storage and Handling of Dangerous Goods to reduce the risk of any spills or environmental release. Above ground storage in a bunded facility will be used. - Safety Data Sheets (SDS) will be kept in the site safety system for all chemicals used on site. The SDS's will contain information on the environmental impacts of the use of certain chemicals and include detail on emergency response, clean up and disposal. Handling and storage of all chemicals within the project sites will be in accordance with Dangerous Goods Act 1975 (NSW), and Australian standards, including AS1940-2004 (Storage and Handling of Flammable and Combustible Liquids).

8.0 Visual

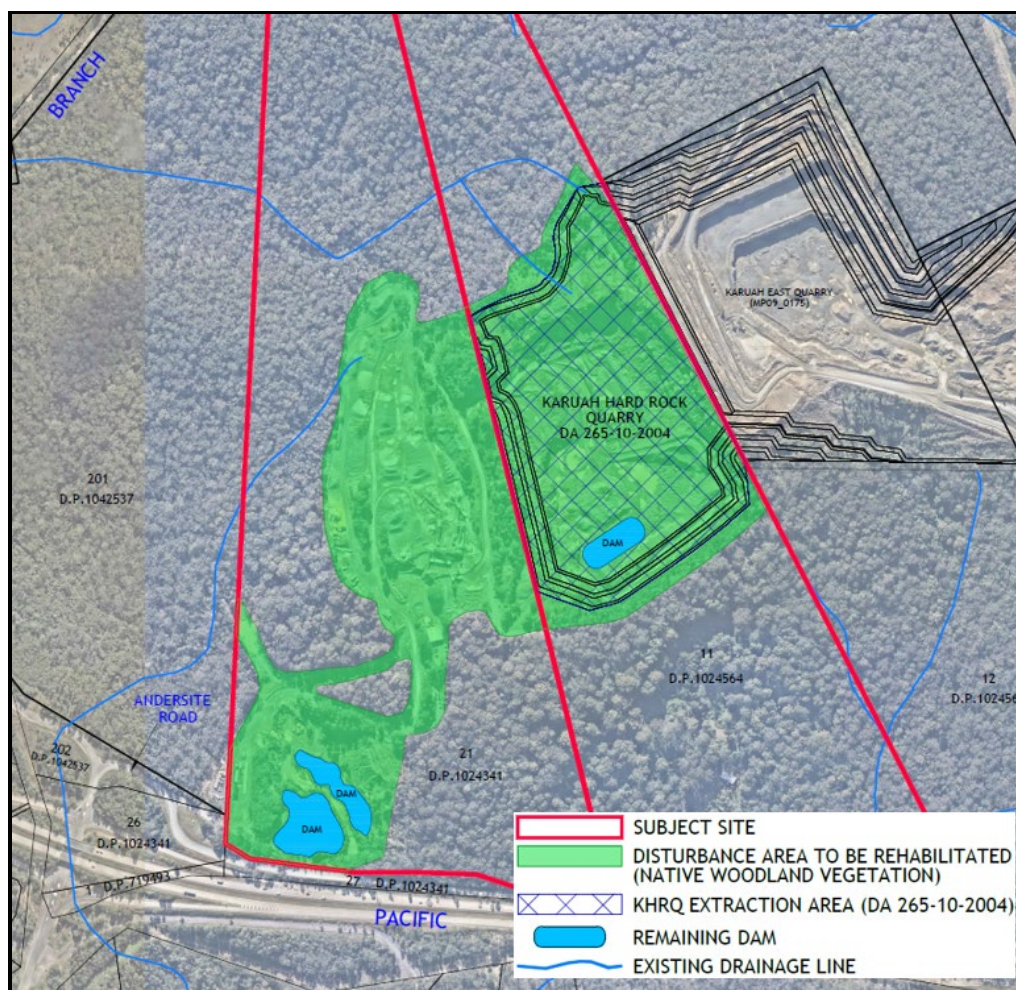
No additional visual mitigation measures are necessary due to the overall positive visual impact the MOD 2 proposal will have on the visual character of the landscape.

No additional traffic and transport mitigation or monitoring measures are necessary to facilitate the MOD 2 development.

10.0 Rehabilitation & Closure Strategy

The following post-closure landform outcomes (the final landform) will be established:

- **Domain 1** Woodland Rehabilitation;
- **Domain 2** Benches;
- **Domain 3** Water Management (inclusive of infrastructure i.e. sediment dams); and
- **Domain 4** Haul Roads.



Concept Final Rehabilitation Plan

Monitoring requirements for MOD 2 are consistent with those already contained within the approved KHRQ Rehabilitation & Closure Plan (IEMA, ver 5A, 2025) and no new or additional monitoring obligations are necessary.