

29 July 2026

James McDonough
Team Leader - Resource Assessments
Energy, Resources and Industry / Development Assessment and Sustainability
NSW Department of Planning, Housing and Infrastructure
Locked Bag 5022
Parramatta NSW 2124

Re: Response to Submissions - MOD 11 Karuah (East) Pit Consolidation Project - MP09_0175-Mod-11 and MOD 2 Karuah (Hard Rock) Pit Consolidation Project - DA265-10-2004-Mod 2

Hunter Quarries (HQPL) has engaged EMM Consulting Pty Limited (EMM) to undertake a review of the advice received from the Water Group within the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW – Water Group) on 19 June 2026 in relation to the concurrent Modification Applications for the Karuah Pit Consolidation Project as follows:

- Modification 11 to KEQ (MP09_0175-Mod-11) (MOD11)
- Modification 2 to KHRQ (DA 265-10-2004-Mod-2) (MOD2).

The advice provided from NSW DCCEEW – Water Group covered both the MOD11 and MOD2 applications holistically. Detailed responses to the recommendations made by DCCEEW – Water Group are provided in Table 1, with the proposed additional monitoring bore location graphically illustrated by Figure 1.

Table 1 **Proponent responses to DCCEEW – Water Group recommendations**

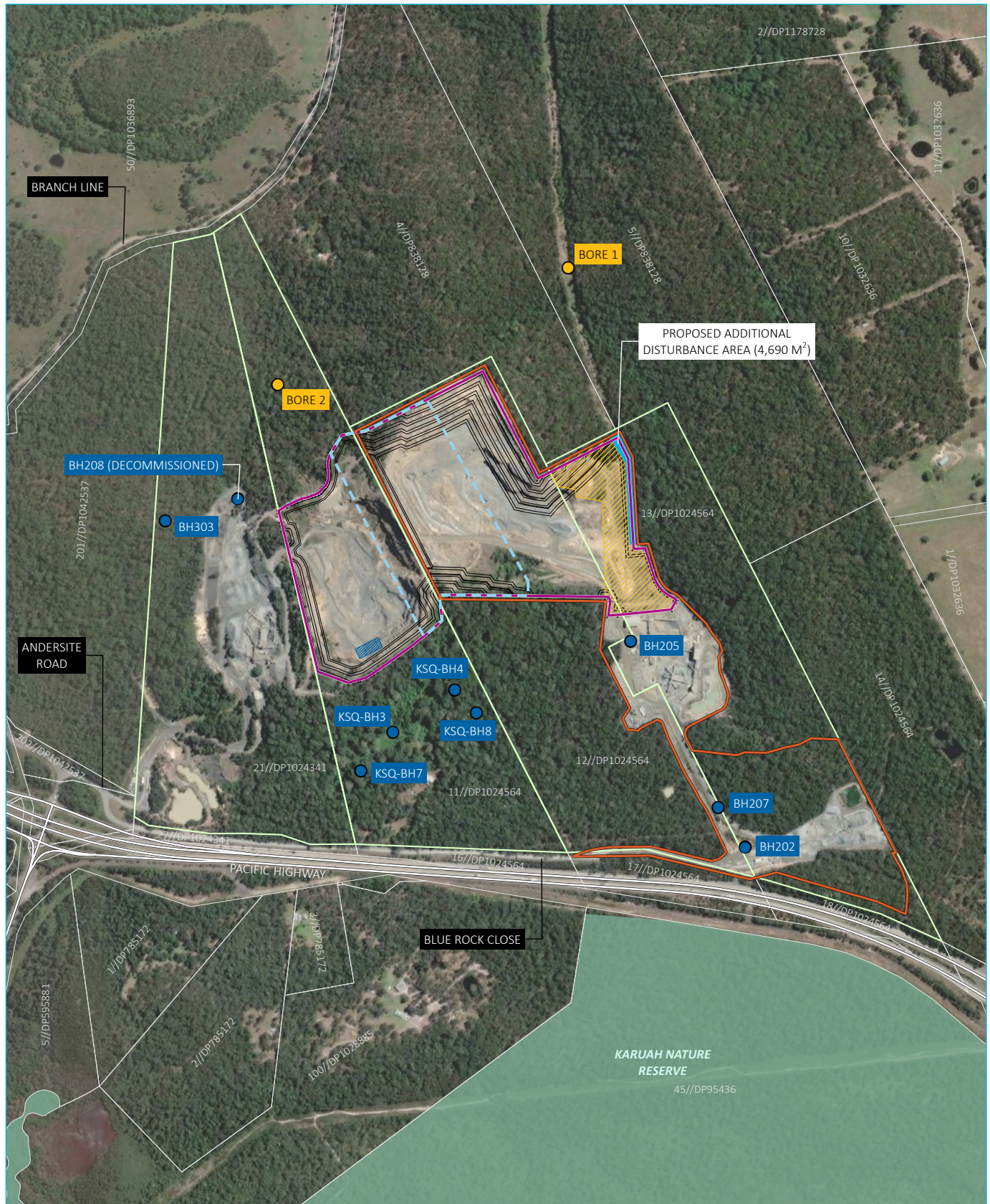
No.	DCCEEW – Water Group comment	Proponent response
1.1	The Department of Planning, Housing and Infrastructure (DPHI) should request that the proponent install two additional groundwater monitoring bores to the north and north-west of the proposed final quarry footprint, to ensure groundwater levels below the proposed floor level of RL 45 mAHD are adequately characterised and monitored.	As requested, two (2) additional groundwater monitoring bores will be installed north and north-east of the proposed Consolidated Extraction Area (CEA). The proposed locations of the bores are shown in Figure 1. The proposed bore on Lot 11 DP1024564 will replace existing bore BH208 which has been decommissioned due on-going maintenance issues associated with the location's steep topography. The proposed bore on Lot 5 DP838128 will address the monitoring gap north-east of the proposed additional disturbance area to the north-east of the site. Both bores will be constructed to a depth greater than the approved KEQ floor level of RL 45 mAHD. The proponent commits to the installation of the two (2) bores on the following basis: a) A new KEQ Groundwater Management Plan will be submitted to DPHI within 6 months of determination of the concurrent Modification Applications (Item 1.2). b) Installation to be completed within 18 months of determination of the concurrent Modification Applications. c) No extraction to occur within the 'Proposed Extended Extraction Area' within the CEA on Lot 13 DP1024564 as shown in Figure 2 until: (i) the KEQ Groundwater Management Plan (refer to Item 1.2 below) has been approved by DPHI (ii) both new monitoring bores have been installed. Until items (a) and (b) have been completed, extraction will be limited to the currently approved extraction areas and the 'Proposed Highwall Extraction Area' within the CEA on Lot 11 and Lot 12 DP1024564 as shown in Figure 2. <i>Note: that the plan provided in Figure 2 is reproduced from Figure 4 of both Section 4.55(2) Modification Reports for the KHRQ and KEQ.</i> Extraction of the 'Proposed Highwall Extraction Area' (as shown in Figure 2) between the two well established quarry pits will not interact with groundwater. This assessment is supported by the absence of groundwater inflows at the existing quarry pits (refer to Section 5 of the Groundwater Assessment that accompanied each Section 4.55[2] Modification Report [Appendix K of both documents]) and depth to groundwater measured using the existing monitoring network.
1.2	The Department of Planning, Housing and Infrastructure (DPHI) should request the proponent revise the project Water Management Plan to incorporate a dedicated Groundwater Management Plan sub-plan and to reflect the proposed changes to on-site surface water management.	The existing KEQ Water Management Plan (WMP) incorporates both surface water and groundwater management measures. As requested, this WMP will be separated into two standalone documents: a KEQ Surface Water Management Plan (SWMP) and a KEQ Groundwater Management Plan (GWMP). The KEQ GWMP will be prepared for the proposed consolidated site footprint and submitted to DPHI for approval within 6 months of the determination of the concurrent Modification Applications. This timeframe is consistent with the typical timeframe granted for the development and implementation of new post-consent items. The KEQ SWMP and the KHRQ Site Water Management Plan will be updated in accordance with existing routine Management Plan review and revision processes as post-consent items.

No.	DCCEEW – Water Group comment	Proponent response
1.3	The Department of Planning, Housing and Infrastructure (DPHI) should request that the proponent maintain continuous access to all groundwater bores and promptly repair or reinstate any damaged infrastructure to ensure the bores remain fully operational.	Active measures are already being undertaken to ensure the monitoring bore network remains operational. BH208 has suffered from on-going maintenance issues associated with the location's steep topography and has now been damaged beyond repair on two occasions. As outlined by Item 1.1, it is proposed that this be relocated to the north on Lot 11 DP1024564. <i>Note – it is considered that Lot 21 DP1024341 is adequately covered by the existing BH303.</i> Furthermore, the proponent has proactively installed replacement monitoring bores in anticipation of decommissioning as part of works approved under Karuah East Quarry Modification 10 (MOD10). For example, borehole BH202 (located near the weighbridge) was installed in December 2024 to replace BH207 (located near the Haul Road) which will be impacted by the extended stockpile area approved by MOD10 once construction commences. Access to the four bores located within the separately proposed Karuah South Quarry area (KSQ-BH3, KSQ-BH4, KSQ-BH7 and KSQ-BH8, refer to Figure 1 for locations) were not maintained by the previous owners of Lot 11 DP1024564. The proponent is actively working to restore site access and reinstate monitoring bores where practical. As these bores are screened within the same geological formation and monitor equivalent hydrogeological conditions, a minimum of one operational bore is considered to be sufficient for representative monitoring coverage in this area. The KEQ GWMP will incorporate an adaptive management framework, establishing clear commitments to maintain the integrity of the monitoring network. This includes the repair or replacement of damaged monitoring bores; and the installation of replacement bores prior to the decommissioning of any bores proposed to be impacted by quarry extraction or ancillary infrastructure projects in a reasonable sequence and timeframe.
1.4	The Department of Planning, Housing and Infrastructure (DPHI) should request that an appropriate two - dimensional seepage analysis be completed for the site in its current form and to represent the anticipated final form following excavation. The seepage analysis should be submitted to DCCEEW Water Group for review within six months of project approval.	The development of a seepage model is not needed for the proposed Karuah Pit Consolidation Project because the maximum extraction depth at KEQ will remain unchanged at RL 45 mAHD which is above the known groundwater table. The extraction depth at KHRQ will remain unchanged at RL 65 mAHD which is further above the known groundwater table. The proposed extraction depths will not deepen the currently approved extraction depths. Groundwater observations indicate groundwater levels remain below the approved extraction depth and no groundwater inflow or take has been observed within existing KEQ or KHRQ quarry pits to date (refer to Section 5 of the Groundwater Assessment that accompanied each Section 4.55[2] Modification Report [Appendix K of both documents]). It is considered appropriate that the KEQ GWMP be updated to incorporate an adaptive management framework, including ongoing groundwater monitoring and review of hydrogeological conditions during the quarry operations. Should monitoring identify groundwater levels approaching the extraction depth, or any evidence of groundwater interception, the need for seepage modelling and any additional measures will be reviewed and implemented as appropriate.

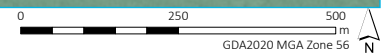
Yours sincerely



Quan Bui
Senior Hydrogeologist
qbui@emmconsulting.com.au



Source: EMM (2026); DCSSS (2024); ESRI (2026); GA (2009)



KEY

- Subject cadastral lot
- Groundwater bore
- Proposed groundwater bore
- Karuah Pit Consolidation Project proposed extraction layout

Existing environment

- Major road
- Cadastral boundary
- NPWS reserve

Project element

- Karuah East Quarry disturbance area
- Proposed consolidated extraction area
- Proposed KEQ (MOD11) additional disturbance area (4,690 m²)
- Proposed KEQ (MOD11) extended extraction area
- Proposed overlapping consent area containing the highwall structure
- Proposed KHRQ pit sump

Groundwater monitoring bores

Karuah Pit Consolidation Project
Karuah East Quarry MOD11 (MP09_0175)
Karuah Hard Rock Quarry MOD2 (DA265-10-2004)
Response to Submissions

Figure 1

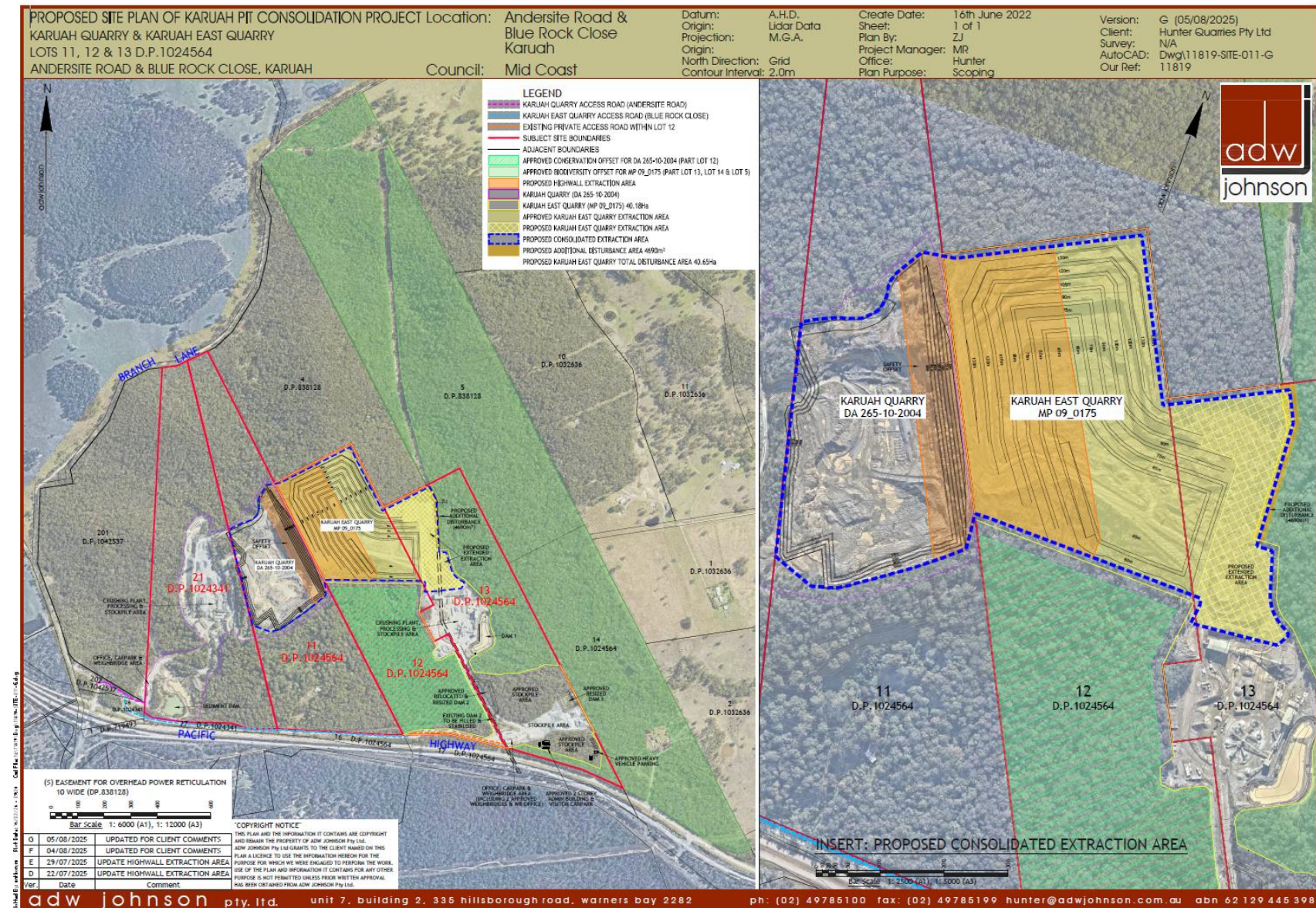


Figure 2 Location of Proposed Highwall Extraction Area within Proposed Consolidated Extraction Area