



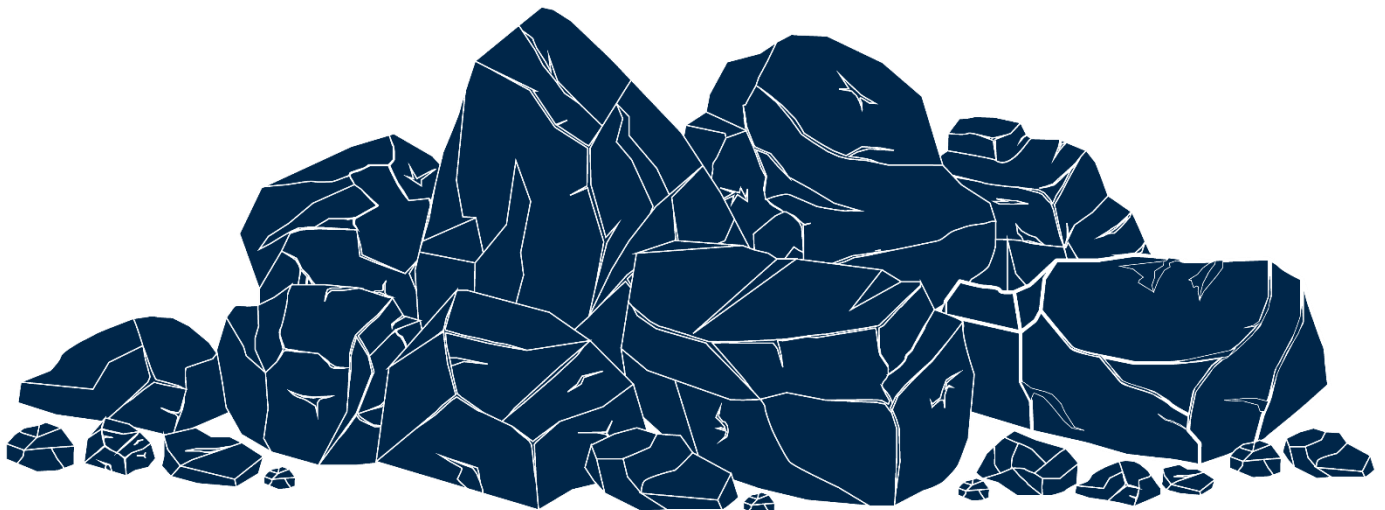
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Karuah East Quarry

Biodiversity Offset Strategy

February 2026



Revision History

Version	Date Reviewed	Author	Status	Amendment Details
1	July 2013	ELA	Endorsed by GLC and OEH.	Original Biodiversity Offset Strategy developed to satisfy Schedule 3, Condition 28 of the Project Approval and Condition 7 & 8 of the EPBC Approval.
2A	September 2025	KEQPL	Draft for Consultation	Comprehensive review following receipt of EPBC Approvals (EPBC 2014/7272 – Variation 2 and EPBC 2022/9164) for the KEQ MOD10 Stockpile Extension Project.
2B	October 2025	KEQPL	Draft for Submission	Updated following consultation with the CPHR Group within the NSW DCCEEW (PAE-93287988) and MidCoast Council (PAE-93287986).
2C	February 2026	KEQPL	Draft for Submission	Updated for NSW Planning comments.

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Terms, Definitions and Abbreviations

Abbreviation / Term	Meaning
BBAM	Biobanking Assessment Methodology (former)
BC Act	NSW <i>Biodiversity Conservation Act 2016</i>
BCF	Biodiversity Conservation Fund
BDAR	Biodiversity Development Assessment Report
BOS	Biodiversity Offset Strategy
BSA	Biodiversity Stewardship Agreement
Commonwealth DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
CPHR	Conservation Programs, Heritage and Regulation Group within the NSW DCCEEW
EA	Environmental Assessment
EBOA	Eastern Biodiversity Offset Area
EIS	Environmental Impact Statement
ELA	EcoLogical Australia
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
GLC	Great Lakes Council (former)
Ha	Hectare
HME	Heavy Mining Equipment
IPC	NSW Independent Planning Commission
KEQ	Karuah East Quarry
KEQ BOA	Original Karuah East Quarry Biodiversity Offset Area
KEQPL	Karuah East Quarry Pty Limited
KLF	Kleinfelder
LGA	Local Government Area
MCC	MidCoast Council
MNES	Matters of National Environmental Significance
MOD1	Modification 1 to the NSW Project Approval
MOD2	Modification 2 to the NSW Project Approval
MOD10	Modification 10 to the NSW Project Approval
NSW BCT	NSW Biodiversity Conservation Trust
NSW BOS	NSW Biodiversity Offset Scheme
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
NSW Planning	NSW Department of Planning, Housing and Infrastructure
NSW OEH	NSW Office of Environment and Heritage (former)
PCT	Plant Community Type
tpa	tonnes per annum
TSC Act	NSW <i>Threatened Species Conservation Act 1995</i> (former)
Variation 1	Variation 1 to the Commonwealth EPBC Approval (EPBC 2014/7282)
Variation 2	Variation 2 to the Commonwealth EPBC Approval (EPBC 2014/7282)
WBOA	Western Biodiversity Offset Area

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1.0 Introduction

Karuah East Quarry Pty Limited (KEQPL) has prepared this Biodiversity Offset Strategy (BOS) for the Karuah East Quarry (KEQ) to satisfy the requirements outlined in Schedule 3, Condition 28 of the Project Approval (MP09_0175).

1.1 Overview

KEQPL operates the KEQ site, located approximately 5 km northeast of the township of Karuah, in the MidCoast Council (MCC) Local Government Area (LGA). KEQ supplies hard rock quarry products to the construction, infrastructure and land development industries, within the Greater Newcastle, Hunter Valley and Mid-North Coast regions.

Project Approval (MP09_0175) was granted for the KEQ on 17 June 2014 by the Independent Planning Commission (IPC) (formerly the NSW Planning Assessment Commission) on behalf of the Minister for Planning and Public Spaces (formerly Minister for Planning).

Commonwealth Approval (EPBC 2014/7282) was originally granted for KEQ under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 20 March 2015. This was subsequently varied (Variation 2) on 07 May 2025 to facilitate the KEQ MOD10 Stockpile Extension Project (MOD10) which was subject to an additional Controlled Action with subsequent EPBC Approval (EPBC 2022/9164) being granted on 02 July 2025.

The KEQ site has approval to extract, process, stockpile and transport up to 1.5 million tonnes of andesite material annually until 2034.

1.2 Project Site

The KEQ site is located off the Pacific Highway (via Blue Rock Close) and is situated on the following lands:

- Lot 12 (Lot 12) and 13 DP1024564 (Lot 13) consisting of the KEQ site;
- Lot 14 (Lot 14) and part Lot 13 DP1024564 (Lot 13) and Lot 5 DP838128 (Lot 5) consisting of the Eastern Biodiversity Offset Area (EBOA); and
- Part Lot 201 DP1042537 (Lot 201) consisting of the Western Biodiversity Offset Area (WBOA).

Figure 1 illustrates the site locality and regional context whilst **Figure 2** illustrates the KEQ site along with the associated EBOA and WBOA.

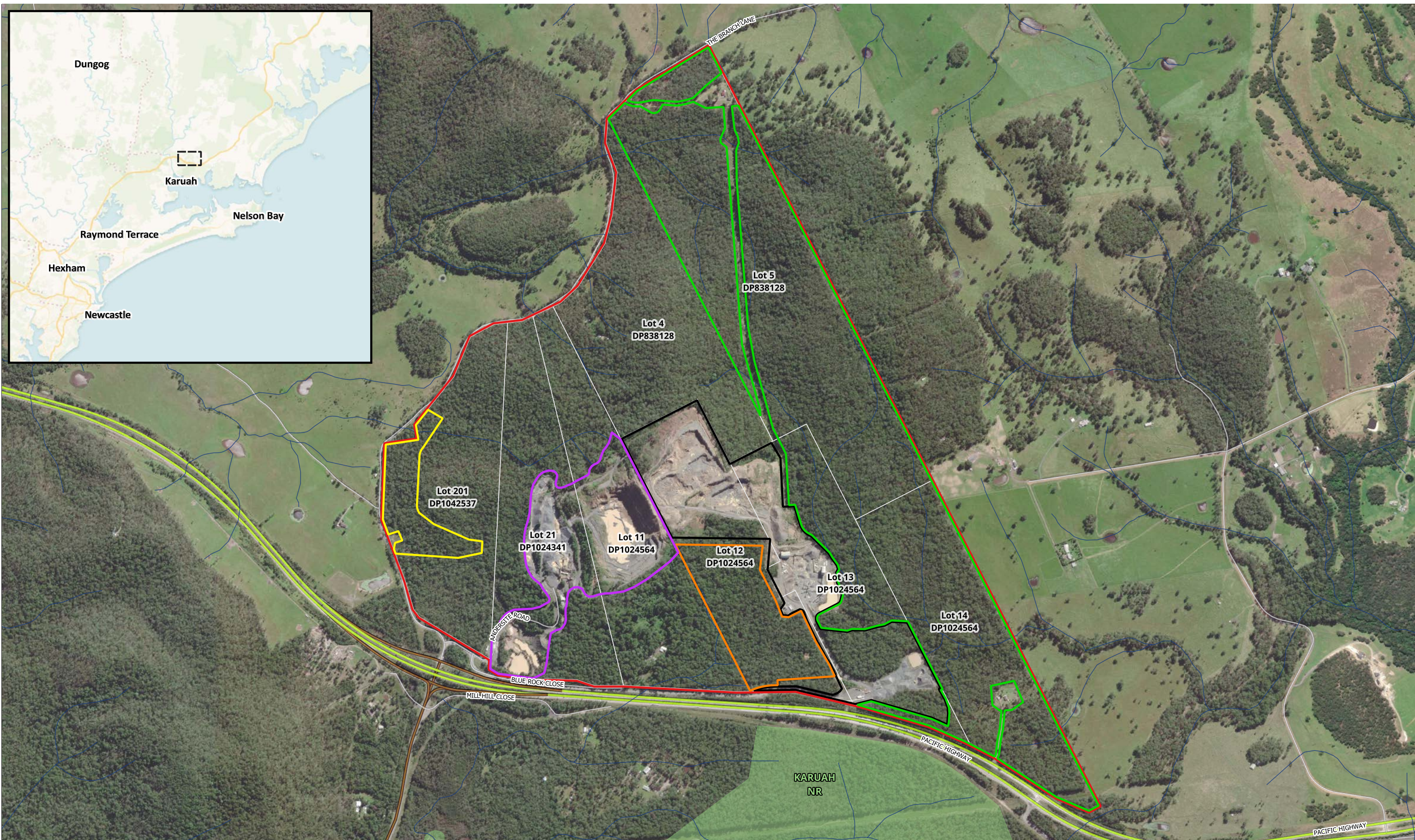
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1.3 Summary of the NSW Project Approval (MP09_0175)

The key features of the Project Approval include the following key elements:

- The extraction (excluding overburden), processing, stockpiling, and transport of quarry products is limited to 1.5 million tonnes in any calendar year;
- Quarrying operation is permitted on the site until 31 December 2034;
- Establishment and use of quarry plant and associated infrastructure;
- Vegetation removal;
- A total permitted disturbance area of 40.18 ha on Lots 12 and 13 DP 1024564;
- Roadworks to secure access to the site including upgrade and extension of Blue Rock Close, realignment of the Andersite Road and Blue Rock Close intersection and adjust road markings at Branch Lane and Andersite Road intersection;
- Establishment of a biodiversity offset area;
- Conditions apply to manage / mitigate potential impacts associated with a range of environmental conditions including noise, blasting, air quality, soil and water, transport, biodiversity, heritage, emergency and hazards management and waste; and
- Progressive rehabilitation of the subject site.

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- | | | | |
|---|--|---|--|
| Karuah Quarry Complex Site Boundary | Karuah East Quarry (MP09_0175_MOD10) | Cadastre | Primary Road |
| Karuah Hard Rock Quarry (DA 26-10-265) | Karuah East Quarry Eastern Biodiversity Offset Area | National Park | Arterial Road |
| Karuah Hard Rock Quarry Conservation Offset Area | Karuah East Quarry Western Biodiversity Offset Area | Watercourse | Local Road |

Figure 1: Regional Context and Site Locality Plan



Map Produced: 10/02/2026
 Produced By: Keryn Dowling
 GDA2020 / MGA zone 56



 Karuah Quarry Complex Site Boundary

 Karuah East Quarry (MP09_0175_MOD10)

 Karuah East Quarry Eastern Biodiversity Offset Area

 Karuah East Quarry Western Biodiversity Offset Area

Plant Community Types

 PCT 3174: Northern Turpentine-Brush Box Wet Forest

 PCT 3248: Northern Blackbutt-Turpentine Shrub Forest

 PCT 3433: Hunter Coast Foothills Spotted Gum-Ironbark Grassy Forest

 PCT 3581: Hunter Coast Foothills Apple Forest

 PCT 3581: Hunter Coast Foothills Apple Forest (Sydney Peppermint Variant)

 Trail / Cleared

 Dam

 Watercourse

Figure 2: KEQ & BOA Site Locality Plan



Map Produced: 10/02/2026
Produced By: Keryn Dowling
GDA2020 / MGA zone 56

1.4 Modifications to the NSW Project Approval (MP09_0175)

The Project Approval has been modified five times as summarised by **Table 1**.

Table 1 *Summary of Modifications to the Project Approval.*

MOD	Approval Date	Summary
1	27/04/2018	MOD 1 approved a nominal expansion to the approved area of disturbance by 2,500 m ² to allow for improved vehicle manoeuvring in proximity of the crushing plant and processing area.
2	19/12/2018	MOD 2 approved a 1.133 Ha increase to the site disturbance area to allow for improved environmental management and improved operational safety (for quarry vehicles).
3 – 7 withdrawn		
8	22/12/2020	MOD 8 approved revised operational acoustic criteria in line with the <i>NSW Noise Policy for Industry 2017</i> . MOD 8 also formalised a number of industry best practice acoustic mitigation measures that have been installed at the quarry. No change to disturbance footprint occurred.
9	02/12/2021	MOD 9 extended the approved operating hours of the KEQ. No change to disturbance footprint occurred.
10	18/05/2023	MOD 10 provides approval to increase the disturbance area of the KEQ by 7.17 Ha (bringing the total disturbance area of the KEQ to 40.18 Ha). The purpose of MOD 10 was to increase the approved disturbance area to establish additional stockpiling areas, facilitate improved surface water management, construct a new administrative building and expand the vehicle manoeuvring and parking at site.

1.5 Commonwealth EPBC Approvals

EPBC 2014/7282

KEQPL received the original EPBC Approval (EPBC 2014/7282) on 20 March 2015 and has subsequently been subject to two variations to date, as summarised by **Table 2**.

Table 2 *Summary of Variations to the Commonwealth EPBC Approval (EPBC 2014/7282).*

MOD	Approval Date	Summary
–	20/03/2015	Original approval granted for the site under Commonwealth Environment Protection and Biodiversity Conservation Act 1999.
1	04/10/2018	Variation 1 was required as a result of MOD1 to the NSW Project Approval which impacted upon 0.25 Ha of native vegetation.
NOTE: MOD2, MOD8 and MOD9 to the NSW Project Approval did not necessitate any variations due to:		
- MOD2 did not disturb any Matters of National Environmental Significance (MNES); and - MOD8 and MOD9 did not change the KEQ disturbance footprint.		
2	07/05/2025	Variation 2 was required as a result of MOD10 to the NSW Project Approval which consisted of 7.17 Ha increase in land disturbance and associated clearing of 6.98 Ha of native vegetation from an existing Biodiversity Offset Area.

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EPBC 2022/9164

The KEQ MOD10 Stockpile Extension Project (MOD10) was approved under the Bilateral Agreement between the NSW Government and the Commonwealth Government following confirmation from the Commonwealth DCCEEW that MOD10 was a Controlled Action on 13 May 2022.

EPBC Approval (EPBC 2022/9164) was then subsequently granted on 02 July 2025 authorising additional disturbance of 7.17 Ha and associated clearing of 6.98 Ha of native vegetation.

1.6 Agency Consultation for this Strategy

This BOS for the Karuah East Quarry has been prepared in accordance with the requirements of the Project Approval, including the requirement for consultation with MidCoast Council (MCC) and the Conservation Programs, Heritage and Regulation Group (CPHR) of the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW).

MidCoast Council

Consultation with MCC regarding this BOS was completed on 08 September 2025 via the NSW Major Projects Planning Portal (PAE-93287986). The consultation submission was acknowledged by MCC's representative at the KEQ Community Consultative Committee meeting on 22 September 2025; with a response being provided via email on 04 November 2025 (**Appendix A**).

MCC requested the draft BOS be updated to include discussion regarding the application of local offsetting opportunities within the local area (i.e. the Port Stephens – Karuah River catchment area or within the MCC Local Government Area [LGA]). This has been updated by the inclusion of details provided by **Section 6.0** and summarised by **Table 3**.

NSW Conservation Programs, Heritage and Regulation Group

Consultation with CPHR regarding this BOS was completed on 08 September 2025 via the NSW Major Projects Planning Portal (PAE-93287988). The consultation submission was acknowledged by CPHR on 29 September 2025 with an Extension of Time request until 20 October 2025; however, no final response or comments were received (**Appendix A**).

NSW Department of Planning, Housing and Infrastructure

Following completion of agency consultation, this BOS document was submitted to the NSW Department of Planning, Housing and Infrastructure (NSW Planning) on 24 October 2025 for approval by the NSW Planning Secretary (or delegate).

NSW Planning provided the following commentary on 27 January 2026 as summarised by **Table 3**.

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Table 3 Summary of Agency Consultation.

Agency	Date	Agency Comment	KEQPL Response
MidCoast Council	08/09/2025	Submission of BOS document to MCC via NSW Major Projects Planning Portal for agency consultation.	
	22/09/2025	Acknowledgement of the consultation submission was provided by MCC's representative at the KEQ Community Consultative Committee meeting.	
	04/11/2025	<i>We request that the Draft BOS not be finalised until such time as it has been amended to include discussion as to whether there are local offsetting opportunities and how these opportunities have been researched.</i>	Section 6.0 included to address application of local offsetting opportunities.
CPHR	08/09/2025	Submission of BOS document to CPHR via NSW Major Projects Planning Portal for agency consultation.	
	29/09/2025	Acknowledgement of the consultation submission was provided with CPHR extending the consultation period until 20 October 2025. However, no response was subsequently received.	
NSW Planning	24/10/2025	Submission of BOS document to NSW Planning via NSW Major Projects Planning Portal following completion of the extended agency consultation period.	
	04/11/2025	Provision of advice received from MCC to NSW Planning via email.	
	27/01/2026	update the cross-references in the third column of Table 3 to refer to the correct sections within the Strategy;	Table 4 (previously Table 3) has been updated to reflect cross-references to the appropriate document section.
		update the header in Table 11 to refer to species credits (not ecosystem credits);	Typographical error in the caption for Table 12 (previously Table 11) has been corrected.
		update the vegetation mapping on Figure 3 and Figure 4 to show all dams. Note the dam located within the area mapped as PCT 3581 and the dam to the north-east of the processing plant within the area mapped as PCT 3248 within the Eastern Biodiversity Offset Area;	Figure 3 and Figure 4 have been updated to more clearly identify farm dams that remain within the EBOA and WBOA.
		update the native vegetation areas listed in Table 8 to account for the additional dams to be shown on Figure 3 and Figure 4;	Table 9 (previously Table 8) has been updated to reflect vegetation areas provided by Figure 3 and Figure 4 .
		update the Strategy to address any feedback received from Mid-Coast Council or the Conservation Programs, Heritage and Regulation Group since the document was lodged with the Department for review and approval.	Additional information provided by Section 6.0 and summarised by this table, Table 3 .

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2.0 Regulatory Requirements

2.1 Requirements of the NSW Project Approval (MP09_0175)

The requirements of the Project Approval are summarised by **Table 4**.

Table 4 Summary of Relevant Conditions of the Project Approval.

No	Requirements	Section																						
Schedule 3 – Environmental Performance Conditions																								
Condition 28	<u>Biodiversity Offset Strategy</u> <i>The Applicant must, prior to the commencement of vegetation clearing activities for Modification 10, finalise the Biodiversity Offset Strategy, as described in documents listed in Condition 2 of Schedule 2, summarised in Table 10 and Table 11 and shown conceptually in Figure 1 of Appendix 4, in consultation with BCD and Council, and to the satisfaction of the Planning Secretary.</i>	Whole Document																						
	Table 10: Biodiversity Offset Strategy – land-based offsets																							
	<table><tr><th>Area</th><th>Offset Type</th><th>Minimum Size</th></tr><tr><td>Offset Area</td><td>Existing vegetation to be managed and enhanced</td><td>130.36 Ha</td></tr></table>	Area	Offset Type	Minimum Size	Offset Area	Existing vegetation to be managed and enhanced	130.36 Ha	Section 4.2																
	Area	Offset Type	Minimum Size																					
	Offset Area	Existing vegetation to be managed and enhanced	130.36 Ha																					
	Table 11: Biodiversity Offset Strategy – ecosystem and species credit requirements																							
	<table><tr><th>Credit Type</th><th>Credits Required</th></tr><tr><td colspan="2">Ecosystem Credits</td></tr><tr><td>PCT 1619: Smooth-barked Apple – Red Bloodwood – Brown Stringybark – Hairpin Banksia heathy open forest of coastal lowlands</td><td>188</td></tr><tr><td>PCT 695: Blackbutt – Turpentine – Tallowood shrubby open forest of the coastal foothills of the central NSW North Coast Bioregion</td><td>7</td></tr><tr><td>Total:</td><td>195</td></tr><tr><td colspan="2">Species Credits</td></tr><tr><td>Tetratheca juncea (Black-eyed Susan)</td><td>260</td></tr><tr><td>Grevillea parviflora subsp. Parviflora (Small-flower Grevillea)</td><td>250</td></tr><tr><td>Squirrel Glider (Petaurus norfolcensis)</td><td>260</td></tr><tr><td>Southern Myotis (Myotis Macropus)</td><td>107</td></tr><tr><td>Total:</td><td>195</td></tr></table>	Credit Type	Credits Required	Ecosystem Credits		PCT 1619: Smooth-barked Apple – Red Bloodwood – Brown Stringybark – Hairpin Banksia heathy open forest of coastal lowlands	188	PCT 695: Blackbutt – Turpentine – Tallowood shrubby open forest of the coastal foothills of the central NSW North Coast Bioregion	7	Total:	195	Species Credits		Tetratheca juncea (Black-eyed Susan)	260	Grevillea parviflora subsp. Parviflora (Small-flower Grevillea)	250	Squirrel Glider (Petaurus norfolcensis)	260	Southern Myotis (Myotis Macropus)	107	Total:	195	Section 5.0
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Southern Myotis (Myotis Macropus)	107																							
Total:	195																							
NOTES:																								
1. The Biodiversity Offset Strategy must direct that the land proposed as the Offset Area must be free of any dwelling-houses and associated sheds, bushfire asset protection zones and other related utilities or structures so as to preserve the integrity and function of that offset area. The Biodiversity Offset Strategy must provide details of the revegetation of any parts of the offset area that are cleared of native vegetation or are in an otherwise substantially modified state, other than required management trails and boundary fencing buffer distances.																								
2. Credits required for impacts to EPBC Act listed species and associated habitats must be like-for-like.																								
The Applicant must implement the strategy as approved by the Planning Secretary.																								
<u>Long Term Security of Offsets</u> <i>The long-term security of the offset area listed in Table 10 and the retirement of credits listed in Table 11 must be carried out prior to the commencement of vegetation clearing activities for Modification 10, in consultation with BCD and in accordance with the Biodiversity Offset Scheme of the BC Act, or other agreed security mechanism, to the satisfaction of the BCT.</i>																								
Section 4.1																								
<table><tr><th>Document Number</th><th>Version Number</th><th>Version Date</th><th>Revision Date</th><th>Document Owner</th><th>Page</th></tr><tr><td>ENV-MP-KEQ004</td><td>Version 2C</td><td>10/02/2026</td><td>10/02/2029</td><td>E&D Manager</td><td>12 of 102</td></tr></table>			Document Number	Version Number	Version Date	Revision Date	Document Owner	Page	ENV-MP-KEQ004	Version 2C	10/02/2026	10/02/2029	E&D Manager	12 of 102										
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2.2 Requirements of the Commonwealth EPBC Approvals

The requirements of the Commonwealth EPBC Approvals are summarised by **Table 5** and **Table 6** for the 2014 and 2022 EPBC Approvals respectively.

Table 5 Requirements of the 2014 Commonwealth EPBC Approval (EPBC 2014/7282).

No	Requirements	Section
Offsets		
Condition 7	<i>The person taking the action must comply with the offset conditions set out in the NSW Project Approval.</i>	Section 4.0 & Section 5.0
Condition 8	<i>Prior to the commencement of construction, to compensate for the impact to Trailing Woodruff and habitat for the Koala, the person undertaking the action must secure suitable offset sites consistent with the Karuah East Quarry EPBC Act Assessment Report. In the case that the offsets for Trailing Woodruff or habitat for the Koala consistent with those set out in the Karuah East Quarry EPBC Act Assessment Report cannot be secured, alternate offset sites must be secured, consistent with the EPBC Act Offsets Policy.</i>	Section 4.0
Condition 9A	<i>To compensate for the excised area, in accordance with the Memo at Annexure B, of part of the offset site provided in accordance with condition 8), the person taking the Action must within 24 months of the date of this variation decision, secure a replacement offset site (the 'western offset site') in accordance with the terms of the Memo at Annexure B and meeting the requirements of the EPBC Act Offsets Policy to the satisfaction of the Minister. The person taking the Action must not excise any part of the offset site provided in accordance with condition 8), unless the Minister has advised in writing that the western offset site meets the requirements of the EPBC Act Offsets Policy to the satisfaction of the Minister.</i>	Section 4.2 & Section 4.3

Table 6 Requirements of the 2022 Commonwealth EPBC Approval (EPBC 2022/9164).

No	Requirements	Section
Offsets		
Condition 3	<i>To compensate for impacts to protected matters, the approval holder must retire biodiversity credits, in accordance with Schedule 3, condition 28 and 29 of the State development consent, to the extent that these conditions relate to protected matters.</i>	Section 5.0

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3.0 History of Approvals and Biodiversity Offset Obligations

3.1 Original Karuah East Quarry Project

Approved Impacts

The approved KEQ Project authorised land disturbance of 31.64 Ha that impacted upon 28.09 Ha of native vegetation as outlined by the Preferred Project Report (RPS, 2013), that consisted of:

- 20.38 Ha of Spotted-gum ironbark forest,
- 7.31 Ha of Smooth-barked apple forest, and
- 0.40 Ha of Dry rainforest.

RPS (2013) also identified threatened flora species, including:

- 243 individuals of *Tetratheca juncea* (Black-eyed Susan) to be directly impacted; and
- 9 patches of *Grevillea parviflora subsp. parviflora* (Small-flower Grevillea) within the study area but not directly impacted.

Further surveys by ELA (2013) for the Commonwealth EPBC Assessment Report identified additional impacts to threatened species, including:

- 60 individuals of *Asperula asthenes* (Trailing Woodruff); and
- 24.04 Ha of Koala (*Phascolarctos cinereus*) habitat.

These impacts resulted in the generation of offset obligations within both NSW and Commonwealth legislative frameworks under the NSW *Threatened Species Conservation Act 1995* (TSC Act) and Commonwealth EPBC Act respectively.

NSW Biodiversity Offset Strategy

At the NSW level, the project was proposed to be offset through the provision of an on-site Biodiversity Offset Area (KEQ BOA) consisting of a minimum of 129.32 Ha of similar vegetation located across Lot 5, part Lot 13 and Lot 14, representing an “offsetting ratio” of 4.6:1 compensating for the loss of native vegetation (ELA, 2013).

It should be noted, whilst the KEQ BOA did not directly offset the Dry Rainforest component of the impacted vegetation, 30.77 Ha of moist forest of other types were included in the offset package which was subsequently supported by the former NSW Office of Environment & Heritage (OEH) at the time of approval in correspondence dated 23 September 2015.

In relation to threatened flora species, additional offset allowances were made for threatened species, in accordance with the BBAM Calculator that was in-force at the time for *Tetratheca juncea* (Black-eyed Susan) and *Grevillea parviflora subsp. parviflora* (Small-flower Grevillea).

This original Biodiversity Offset Strategy (BOS) was developed to satisfy the requirements of Schedule 3, Condition 28 of the Project Approval and was endorsed by the OEH on 23 September 2015 and by the former Great Lakes Council (GLC) on 01 October 2015. A copy is provided by **Appendix D** for further details.

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Commonwealth EPBC Assessment Report

In similar fashion, the Commonwealth EPBC Assessment Report (ELA, 2014) considered the adequacy of proposed offsets contained in the KEQ BOA for MNES, in accordance with the EPBC Offsets Calculator that was in-force at the time.

This assessment and calculations considered the proposed KEQ BOA, inclusive of Lot 5, provided adequate offsets for the following threatened species:

- *Asperula asthenes* (Trailing Woodruff);
- *Tetradlea juncea* (Black-eyed Susan); and
- Koala (*Phascolarctos cinereus*).

The Commonwealth EPBC Approval (EPBC 2014/7282) was then subsequently approved on 20 March 2015.

3.2 KEQ MOD1 Project – Minor Additional Disturbance

The KEQ MOD1 Project consisted of minor additional disturbance of 2,500 m² to improve the area available for the safe manoeuvrability of Heavy Mining Equipment (HME) and other quarry vehicles into and out of the operational plant and processing area.

This additional disturbance area consisted of native vegetation that included MNES (i.e. 13x individuals of *Tetradlea juncea*) and therefore triggered additional biodiversity offset obligations as outlined and calculated by the Flora and Fauna Assessment (Kleinfelder, 2017) that was used to support the Modification Application to the Project Approval. An extract of this assessment consisting of the biodiversity offset calculations are provided by **Appendix C**.

However, the original KEQ BOA consisting of native vegetation across Lot 5, part Lot 13 and Lot 14, was resurveyed increasing the protected area to be conserved and additional *Tetradlea juncea* clumps and *Asperula asthenes* individuals were identified during secondary surveys by KLF (2016) following the finalisation of the acquisition of Lot 5 and formal inclusion within the KEQ BOA. Therefore, the additional offsetting obligations were able to be accommodated by the existing KEQ BOA without any material changes.

Application of these calculations increased the required area of the KEQ BOA from 129.32 to 130.36 Ha under Schedule 3, Condition 28 of the Project Approval using the existing “offsetting ratio” of 4.6:1; and necessitated a variation (Variation 1) consisting of minor mapping updates to the 2014 EPBC Approval.

3.3 KEQ MOD2 Project – Minor Additional Disturbance

The KEQ MOD2 Project consisted of minor additional disturbance of 1.133 Ha to facilitate the development of a dedicated light vehicle access road from the existing weighbridge to the quarry site office that was separated from the original main haul road used by HME’s, other quarry-vehicles and heavy road transport vehicles.

The additional land disturbance required for the project consisted largely of land that was historically cleared, whilst the remaining area of 0.57 Ha consisted of highly degraded and managed vegetation that was below the native vegetation clearing threshold of 1.00 Ha was in force at the time for the KEQ site. Additionally, no Commonwealth MNES were impacted by the project (Kleinfelder, 2018).

Therefore, the project did not trigger the need for any additional biodiversity offsets at either NSW or Commonwealth levels.

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3.4 KEQ MOD10 Project – Stockpile Extension

The KEQ MOD10 Project consisted of addition disturbance of 7.17 Ha to facilitate the development of an extended stockpile area to support the continued growth of the Hunter Quarries’ business, across three distinct areas, including:

- Northern Disturbance Area, consisting of 0.17 Ha of unencumbered land;
- Central Disturbance Area, consisting of 4.91 Ha of land within the existing KEQ BOA; and
- Southern Disturbance Area, consisting of 2.09 Ha of land within the existing KEQ BOA.

In total, this additional land disturbance consists of 6.98 Ha of native vegetation, of which 6.81 Ha is from within the existing KEQ BOA (i.e. Central and Southern Disturbance Areas), triggering the requirement for both additional and replacement biodiversity offsets at both NSW and Commonwealth levels.

The treatment of these biodiversity offset obligations is separated between new clearing under the current legislative frameworks currently in force and replacement offsets aimed at maintaining compliance with previous offset commitments outlined in **Section 3.1** and **Section 3.2**.

Firstly, additional biodiversity offsets for ‘new’ clearing will be secured through the retirement of biodiversity offset credits in accordance with the NSW Biodiversity Conservation Act 2016 (BC Act) and NSW Biodiversity Offsets Scheme (NSW BOS), as summarised by **Section 5.0**.

Secondly, a replacement biodiversity offset area will be established as the Western Biodiversity Offset Area (WBOA) on part Lot 201 with equivalent (or greater) biodiversity values determined on a ‘like-for-like’ basis to ensure compliance with previous offset commitments established under both NSW and Commonwealth levels as outlined by the MOD10 Biodiversity Development Assessment Report (BDAR) (Kleinfelder, 2023).

The replacement biodiversity values for native vegetation and threatened species are summarised below in **Table 7** and **Table 8** respectively.

Table 7 Replacement Biodiversity Values for Native Vegetation under NSW Obligations.

Level	Vegetation Community	Vegetation Area	Replacement Offset
NSW	<i>PCT 1619: Smooth-barked Apple - Red Bloodwood - Brown Stringybark - Hairpin Banksia heathy open forest of coastal lowlands</i>	6.51 Ha	minimum of 6.81 Ha of similar vegetation communities.
	<i>PCT 695: Blackbutt - Turpentine - Tallowwood shrubby open forest of the coastal foothills of the central NSW North Coast Bioregion</i>	0.30 Ha	

Table 8 Replacement Biodiversity Values for Species under NSW and Commonwealth Obligations.

Species	Replacement Offset Values
<i>Tetratheca juncea</i> (Black-eyed Susan)	2,730 individuals
<i>Asperula asthenes</i> (Trailing Woodruff)	No change
<i>Grevillea parviflora subsp. parviflora</i> (Small-flower Grevillea)	18 individuals
Koala (<i>Phascolarctos cinereus</i>)	0.82 Ha

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4.0 Land-Based Offsets

4.1 Long-term Security Mechanism

In accordance with Schedule 3, Condition 28 of Project Approval, KEQPL is required to provide 130.36 Ha of native vegetation divided between the EBOA and the WBOA.

The mechanism to secure both the EBOA and WBOA in the long-term will be through the implementation of Biodiversity Stewardship Agreements (BSA) in accordance with the provisions of the BC Act.

Consultation with the NSW BCT was undertaken in November and December 2020 and NSW Planning in September 2023 with both agencies confirming support for this mechanism in accordance with Schedule 3, Condition 29 of the Project Approval.

4.2 Vegetation Communities

In accordance with Schedule 3, Condition 28 and Figure 1 of Appendix 4 within the Project Approval, KEQPL is required to conserve a minimum of 130.36 Ha of native vegetation. A summary of vegetation communities, as classified by the Plant Community Types (PCT) released in December 2023 (version C2.0), is provided by **Table 9** that confirms compliance with the total size of the obligated combined biodiversity offset areas.

Table 9 *Vegetation Communities within the EBOA and WBOA.*

Site	PCT	Vegetation Community	Vegetation Area	Total Native Vegetation
EBOA	PCT3174	Northern Turpentine - Brush Box Wet Forest	2.69 Ha	123.24 Ha
	PCT3248	Northern Blackbutt – Turpentine Shrub Forest	26.83 Ha	
	PCT3433	Hunter Coast Foothills Spotted Gum – Ironbark Grassy Forest	68.63 Ha	
	PCT3581	Hunter Coast Foothills Apple Forest	21.50 Ha	
	PCT3581	Hunter Coast Foothills Apple Forest (Sydney Peppermint Variant)	3.59 Ha	
WBOA	PCT3433	Hunter Coast Foothills Spotted Gum – Ironbark Grassy Forest	0.84 Ha	8.12 Ha
	PCT3581	Hunter Coast Foothills Apple Forest	7.27 Ha	
Total Biodiversity Offset Area:			131.35 Ha	
Total Biodiversity Offset Obligation:			130.36 Ha	
Compliance:			Yes	

Note: each BOA contains small areas of non-native vegetation, management trails and former farm dams. The total area of the EBOA is 124.46 Ha, and includes 0.62 Ha of Dams, and 0.60 Ha of Trails and/or Cleared Land. The total area of the WBOA is 8.28 Ha, and includes 0.07 Ha of Dams, and 0.09 Ha of Exotic Grassland.

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4.3 Threatened Species

In accordance with the commitments made for the original KEQ Project (inclusive of the MOD1 amendments), as summarised by **Table 10**, it is confirmed that the layout of the EBOA and WBOA provides sufficient offsets for threatened species required under both NSW and Commonwealth levels.

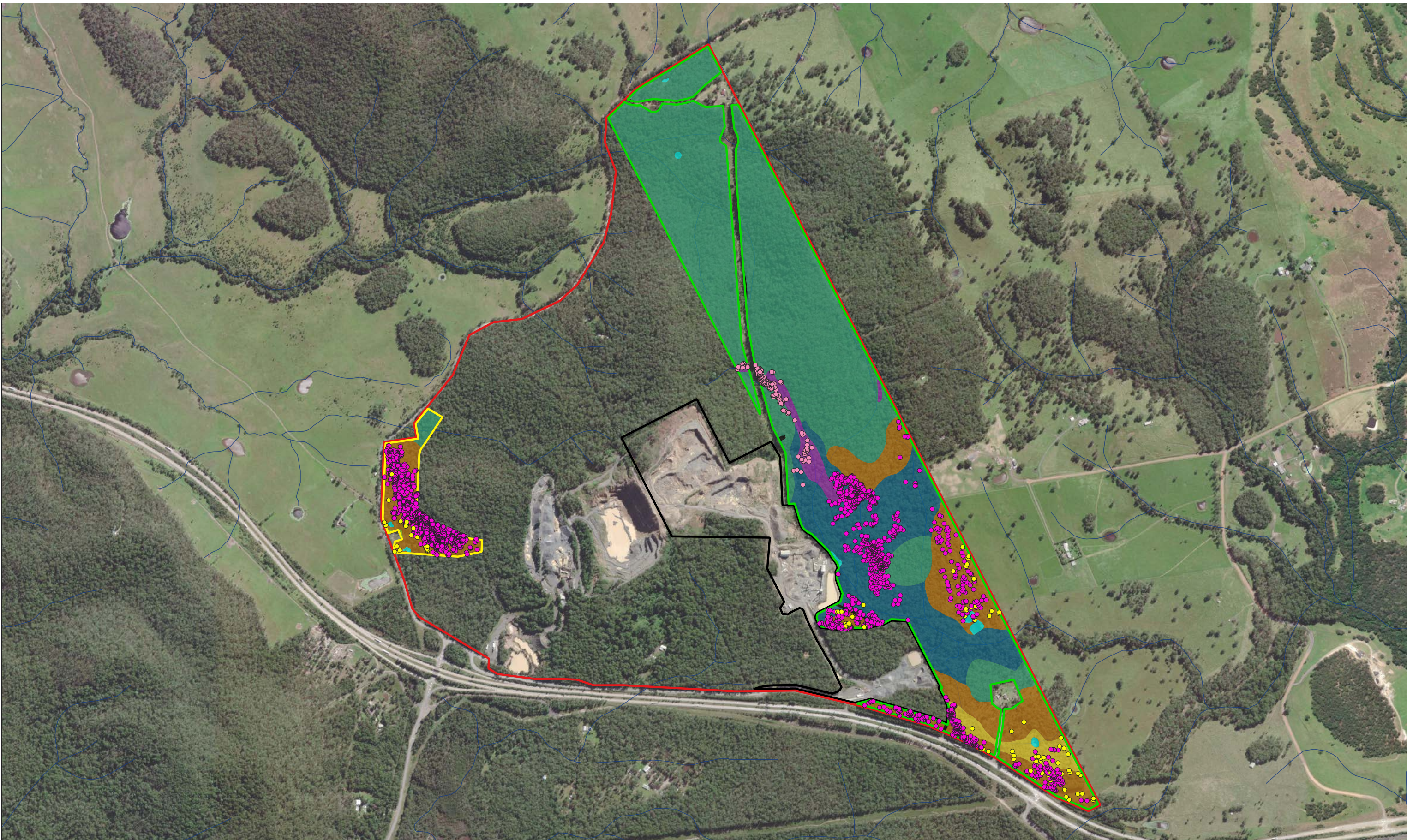
NOTE – for the purposes of this assessment, the number of surveyed individuals of each flora species that was conserved by previous commitments have been used as the metric to consider the adequacy of the new offset arrangements, including secondary surveys by KLF (2016) following the finalisation of the acquisition of Lot 5 and formal inclusion within the KEQ BOA. This method ensures a conservative approach is undertaken to maintain the surpluses of conserved biodiversity values in the previous calculations associated with the former BBAM and EPBC credit calculators.

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Table 10 Summary of Threatened Species within the EBOA and WBOA (NSW & Commonwealth Obligations).

Species	Offset Commitments		Total Offset Commitment (including MOD1)	Impact of KEQ MOD10 Project	Implemented Offsets (post-MOD10)			Compliance
	Part Lot 13 & Lot 14 (ELA, 2014)	Lot 5 (KLF, 2016)			EBOA	WBOA	Total Combined Offset	
<i>Tetratheca juncea</i> (Black-eyed Susan)	6,324 clumps	583 clumps	6,907 clumps	2,730 clumps	4,213 clumps	2,753 clumps	6,966 clumps	Yes (Increased)
<i>Asperula asthenes</i> (Trailing Woodruff)	120 individuals	279 individuals	399 individuals	–	399 individuals	–	399 individuals	Yes (No change)
<i>Grevillea parviflora</i> subsp. <i>parviflora</i> (Small-flower Grevillea)	100 stems (at least)	–	100 stems (at least)	18 stems	388 stems	117 stems	505 stems	Yes (Increased)
Koala (<i>Phascolarctos cinereus</i>)	86.29 Ha	–	86.29 Ha	0.82 Ha	85.47 Ha	0.84 Ha	86.31 Ha	Yes (Increased)

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- Karuah Quarry Complex Site Boundary
- Karuah East Quarry (MP09_0175_MOD10)
- Karuah East Quarry Eastern Biodiversity Offset Area
- Karuah East Quarry Western Biodiversity Offset Area

Threatened Flora Species

- Asperula asthenes*
- Grevillea parviflora* subsp. *parviflora*
- Tetratheca juncea*

Plant Community Type

- PCT 3174: Northern Turpentine-Brush Box Wet Forest
- PCT 3248: Northern Blackbutt-Turpentine Shrub Forest

- PCT 3433: Hunter Coast Foothills Spotted Gum-Ironbark Grassy Forest
- PCT 3581: Hunter Coast Foothills Apple Forest
- PCT 3581: Hunter Coast Foothills Apple Forest (Sydney Peppermint Variant)

- Trail / Cleared
- Dam
- HydroLine

Figure 3: KEQ BOA Threatened Flora Species Surveyed Individuals Plan



Map Produced: 10/02/2026
Produced By: Keryn Dowling
GDA2020 / MGA zone 56



 Karuah Quarry Complex Site Boundary

 Karuah East Quarry (MP09_0175_MOD10)

 Karuah East Quarry Eastern Biodiversity Offset Area

 Karuah East Quarry Western Biodiversity Offset Area

 Koala Habitat

Plant Community Type

 PCT 3174: Northern Turpentine-Brush Box Wet Forest

 PCT 3248: Northern Blackbutt-Turpentine Shrub Forest

 PCT 3433: Hunter Coast Foothills Spotted Gum-Ironbark Grassy Forest

 PCT 3581: Hunter Coast Foothills Apple Forest

 PCT 3581: Hunter Coast Foothills Apple Forest (Sydney Peppermint Variant)

 Trail / Cleared

 Dam

 HydroLine

Figure 4: KEQ BOA Threatened Fauna Species Habitat Plan



Map Produced: 10/02/2026
Produced By: Keryn Dowling
GDA2020 / MGA zone 56

5.0 Credit-Based Offsets

Biodiversity offsets for the 'new' direct impacts of the KEQ MOD10 Stockpile Extension Project will be secured by retiring biodiversity offset credits in accordance the NSW Biodiversity Offsets Scheme established under the NSW *Biodiversity Conservation Act 2016* (BC Act).

Retirement of credits will be completed prior to the commencement of any land clearing with the MOD10 disturbance area in accordance with the Schedule 3, Condition 28 of the Project Approval and Condition 3 of the 2022 EPBC Approval.

The credit obligations will be retired by way of purchase from the market or through contributions to the Biodiversity Conservation Fund (BCF), to the satisfaction of the NSW Biodiversity Conservation Trust (BCT).

A summary of the retirement of credits is provided by **Table 11** and **Table 12** for ecosystem and species obligations respectively.

Table 11 *Summary of Retired Ecosystem Credit Obligations.*

PCT ID	Vegetation Type	Credit Obligation	Retirement Status
PCT 1619	Smooth-barked Apple – Red Bloodwood – Brown Stringybark – Hairpin Banksia heathy open forest of coastal lowlands	188	^Contribution to the BCF
PCT 695	Blackbutt – Turpentine – Tallowwood shrubby open forest of the coastal foothills of the central NSW North Coast Bioregion	7	^Contribution to the BCF

Notes:

^ at the time of writing, contributions to the BCF have been finalised with s6.33 certificates issued.

Table 12 *Summary of Retired Species Credit Obligations.*

Species	Credit Obligation	Retirement Status
<i>Tetratheca juncea</i> (Black-eyed Susan)	260	**On-going sourcing
<i>Grevillea parviflora subsp. parviflora</i> (Small-flower Grevillea)	250	*On-going sourcing
Squirrel Glider (<i>Petaurus norfolcensis</i>)	260	+Credit Sales Agreement
Southern Myotis (<i>Myotis macropus</i>)	107	#Secured from market

Notes:

#at the time of writing, credits have been secured from the market;

+at the time of writing, credit sale agreements have been executed; and

*at the time of writing, sourcing of credits to meet the obligation remains on-going.

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6.0 Application of Local Offsetting Obligations

As part of agency consultation, MCC have requested that opportunities for local offsets be investigated when fulfilling the credit obligation generated as part of the KEQ MOD10 Stockpile Extension Project. MCC described local offsetting opportunities as the retirement of credits generated within the Port Stephens – Karuah River catchment area or within the MCC LGA.

In accordance with Schedule 3, Condition 29 of the Project Approval, prior to the commencement of vegetation clearing activities, KEQPL will retire all biodiversity credits required for the project in accordance with the NSW BOS, where by like-for-like credits will be retired.

It is noted that the like-for-like offsetting rules under the NSW BOS do allow offsetting to occur in a broader area than the Port Stephens – Karuah River catchment area or within the MCC LGA. However, KEQPL are committed to identifying local offsets, where practicable. As such, when identifying potential credits for purchase on the market, preference will be given to those occurring within the local area.

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7.0 References

- ADW Johnson (2013). Environmental Assessment Report – Proposed Karuah East Hard Rock Quarry prepared by ADW Johnson Pty Ltd dated 31 January 2013.
- ADW Johnson (2018). Karuah East Quarry Section 75W Application (MOD 1) Minor Increase to Approved Disturbance Area prepared by ADW Johnson Pty Ltd dated March 2018;
- ADW Johnson (2018). Karuah East Quarry 75W Application (MOD 2) Minor Increase to Approved Disturbance Area prepared by ADW Johnson Pty Ltd dated August 2018;
- ADW Johnson (2022). Karuah East Quarry s4.55(2) Modification Report Proposed Increase to Approved Disturbance Area Modification 10 (MOD 10). Prepared by ADW Johnson Pty Ltd June 2022 (referred to as MOD 10).
- EcoLogical Australia (ELA) (2013). *Karuah East Quarry Biodiversity Offset Strategy*. Prepared for Karuah East Quarry Pty Ltd, July 2013.
- EcoLogical Australia (ELA) (2014). *EPBC Act Assessment Report: Karuah East Quarry – EPBC 2014/7282*. Prepared for Karuah East Quarry Pty Ltd, October 2014.
- Kleinfelder (2017). Flora and Fauna Impact Assessment Karuah East Quarry Project 09_0175 Modification 1 Application. Report Prepared for Karuah East Quarry Pty Ltd, October 2017.
- Kleinfelder (2018). Flora and Fauna Impact Assessment Karuah East Quarry Project 09_0175 Modification 2 Application. Report Prepared for Karuah East Quarry Pty Ltd, September 2018.
- Kleinfelder (2023). Biodiversity Development Assessment Report – Karuah East Quarry – MP 09_0175 Modification 10 Application. Prepared by Kleinfelder, May 2023.
- RPS Australia Pty Ltd (2013). *Terrestrial Ecology Survey and Assessment Report: Karuah East Quarry, Karuah NSW*. Prepared for Karuah East Quarry Pty Ltd, July 2013.

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Appendix A: Agency Consultation (MidCoast Council & NSW CPHR)

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Review of Draft Biodiversity Offset Strategy for Karuah East Quarry

Prepared by Mat Bell (Senior Ecologist)

20 October 2025

Background

This memo comments on the Draft Biodiversity Offset Strategy for the Karuah East Quarry. The Draft Strategy was prepared by Hunter Quarries and is dated September 2025.

The Draft Biodiversity Offset Strategy was prepared to address the requirements of Schedule 3 Condition 28 of the Project Approval MP09_0175. The Karuah East Quarry has approval to extract, process, stockpile and transport up to 1.5M tonnes of andesite material annually until 2034.

The Karuah East Quarry site comprises the extraction and processing area, as well as an Eastern Biodiversity Offset Area and a Western Biodiversity Offset Area (see below).

Karuah East Quarry Modification 10 was approved (NSW) on the 18 May 2023. It increased the disturbance area by 7.17-ha (6.98-ha of which contained native vegetation, and which was located within a Biodiversity Offset Area). EPBC Act approval was granted on 2 July 2025.

Schedule 3 Condition 28 of the NSW project approval required that prior to vegetation clearance activities, a Biodiversity Offset Strategy be finalised to address specified ecosystem and species credit requirements:

- PCT1619 – 188 credits
- PCT695 – 7 credits
- *Tetratheca juncea* – 260 credits
- *Grevillea parviflora* subsp *parviflora* – 250 credits
- Squirrel glider – 260 credits
- Southern myotis – 107 credits

The offset area must be appropriately secured prior to vegetation clearing. The existing offsets are secured as Biodiversity Stewardship Agreement (BSA) sites).

Consultation with MidCoast Council about the Biodiversity Offset Strategy is required under Condition 28.

The 2014 EPBC Act approval required compensating impacts to *Asperula asthenes* and koala habitat (Condition 8) and the 2022 approval required compliance with Condition 28 of the NSW approval.

The Draft BOS has identified that the offsets for the “new” direct impacts will be secured by retiring biodiversity offset credits under the NSW Biodiversity Offsets Scheme. This is via contribution to the Biodiversity Conservation Fund, Credit Sales Agreement, etc, as per:

- PCT1619 – 188 credits – contribution to the BCF
- PCT695 – 7 credits – contribution to the BCF
- *Tetratheca juncea* – 260 credits – in progress
- *Grevillea parviflora* subsp *parviflora* – 250 credits – in progress
- Squirrel glider – 260 credits – credit sales agreement
- Southern myotis – 107 credits – credits have been secured from the market

This Submission

This memo provides a review of the Draft Biodiversity Offset Strategy for the Karuah East Quarry.

Discussion

Firstly, we recognise that payment to the Biodiversity Conservation Fund is a legitimate form of offsetting under the current framework.

However, MidCoast Council has routinely asserted that biodiversity offsets for developments should be achieved proactively, strategically and locally. Our experience has been that most developments achieve their statutory offsetting requirements via payment to the BCF. However, to our knowledge, the agencies administering the BCF have never strategically invested into threatened species or PCT conservation anywhere on the MidCoast. The net effect is that there is biodiversity decline from the MidCoast, and conservation investment benefits are transferred to other regions. Recent reviews of the biodiversity offset scheme in NSW have identified payment to the BCF as a particular problem.

Council has consistently advocated that KEQ offsets be delivered locally. And KEQ has established and managed BSA areas on the site.

This Draft BOS for the Karuah East Quarry seeks to deliver most of the statutory offset requirements through contribution to the BCF.

Council believes that there are likely to be novel approaches to strategic local offsetting that are available. These could expand local conservation areas / reserves and / or deliver on regional connectivity priorities. The Draft BOS has not evaluated or discussed the availabilities or opportunities for local outcomes. It does not appear to have considered novel opportunities.

We request that the Draft BOS not be finalised until such time as it has been amended to include discussion as to whether there are local offsetting opportunities and how these opportunities have been researched.

Council has identified a range of local opportunities and is willing to work proactively to evaluate these opportunities with Hunter Quarries.

From: no-reply@majorprojects.planning.nsw.gov.au
Sent: Monday, 29 September 2025 2:04 PM
To: Scott Ellerton
Subject: Karuah East Quarry Project MP09_0175-PA-65 - PAE-93287988 - Change in due date

Dear Scott Ellerton,

Biodiversity and Conservation Division has changed the due date of the request for advice for the project Karuah East Quarry Project. Additional time is required to review the documents submitted and provide advice back to you.

The new due date for this task is 20/10/2025 .

Please access your profile for details of this update.

If you have any enquiries, please contact Biodiversity and Conservation Division through the Major Projects Portal in the first instance.

If you need to contact an officer, please contact Hunter Central Coast Mailbox on 0249273248 /at rog.hcc@environment.nsw.gov.au

To sign in to your account click [here](#) or visit the Major Projects Website.

Please do not reply to this email.

Kind regards

The Department of Planning and Environment



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Appendix B: Correspondence with NSW Planning

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PLACEHOLDER FOR NSW Planning Approval LETTER

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Appendix C: KEQ MOD1 Project – Biodiversity Offset Calculations

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5.1 KARUAH EAST QUARRY BIODIVERSITY OFFSETS

Vegetation

Schedule 3, Condition 33 of the Project Approval for the Karuah East Quarry required a total of 129.32 ha of 'existing vegetation' to be managed as an offset for impacts on 28.09 ha of vegetation. This generates an offset to impact ratio of 4.60 to 1.

Following Project Approval, a survey of the Biodiversity Offset Area boundaries was conducted by a surveyor (data provided by ADW Johnson), and the final area of the offset was determined to be 138.22 ha, of which 131.44 ha is native vegetation (Kleinfelder, 2015).

Within the inclusion of the additional impact area for the modification, 0.25 ha, the total impact area of the Karuah East Quarry will be 28.34 ha. With the total native vegetation within the offset area being 131.44 ha, this equates to an offset to impact ratio of 4.64 to 1. As such the offset to impact ratio of the original approval will be maintained.

Tetratheca juncea

State Offset Calculations

The Karuah East Quarry project directly impacted on a total of 243 individual *T. juncea* clumps, which generated a total of 3,574 species credits. The Biodiversity Offset Area was initially assessed as containing 6,324 clumps, which generated a total of 37,994 species credits. As such there was a positive balance (surplus) of 34,420 species credits when assessing direct impacts.

When assessing both direct and indirect impacts at the time of the original application, the proposal impacted on a total of 1,575 individuals, which generated a total of 23,162 species credits. With consideration of the indirectly impacted clumps, the offset area contains a total of 4,992 clumps, generating a total of 29,952 species credits. This produces a positive balance (surplus) of 6,790 species credits, when assessing both direct and indirect impacts.

A further 583 clumps were subsequently identified by Kleinfelder (2016) within Lot 5, once it was acquired by the proponent (not previously surveyed for threatened species). As such this positive credit balance (surplus) is currently larger than initially assessed.

Under the BBAM calculator used for the original proposal, *T. juncea* generated 14.71 credits per clump at the impact site and 6 credits per clump at the offset site. The additional impacts of the modification; that is, direct impacts on 13 clumps and combined direct and indirect impacts on 29 clumps, would increase the species credits generated through direct impacts by

191.23 species credits, and both direct and indirect impacts by 426.59 species credits. As such, the positive balance (surplus) of species credits generated by the offset site, when assessing both direct and indirect impacts, would accommodate for these additional impacts on *T. juncea* due to the proposed modification.

Federal Offset Calculations

Eco Logical prepared an EPBC Act Assessment Report (2014), which included an assessment of the impacts on *T. juncea* using the EPBC Act offset calculator, required as part of the EPBC approval process for the original application (EPBC 2014/7282). This assessment concluded that the original approved project would fulfil 106.76% of the offset requirements for the impacts to *T. juncea* within the original impact area (**Table 2**). An assessment of the modification (including the original impact to 243 individuals) has also been conducted, to ensure the offset area would fulfil the offsetting requirements under the EPBC Act. This assessment used the same assumptions as used in the original Eco Logical report (2014), and includes the additional 583 *T. juncea* individuals identified within Lot 5 of the offset area. This assessment identified that the offset area would fulfil 104.72% of the offsetting requirements for the Karuah East Quarry, including the proposed modification area (**Table 2**).

Table 2: EPBC Act Offset calculations for *Tetratheca juncea*

Impact Calculator Attribute	Approved Project Offsets Calculations (Eco Logical, 2014)		Offsets Calculations including Modification	
	Impact Calculator Input	Notes	Impact Calculator Input	Notes
Number Impacted	243	-	256	-
Proposed Offset	6,324	Does not include Lot 5	6,907	Including counts within Lot 5
Risk Horizon	20 years	-	20 years	-
Start Value	6,324 individuals	-	6,907 individuals	-
Future Value without Offset	6,324 individuals	Assumed 3% decline (200 individuals)	6,700 individuals	Assumed 3% decline (207 individuals)
Future Value with Offset	6,424 individuals	Assumed 1.5% increase (100 individuals)	7,010 individuals	Assumed 1.5% increase (103 individuals)
Raw gain	300 individuals	As per Calculator	310 individuals	As per Calculator
Adjusted Gain	270 individuals	As per Calculator	279 individuals	As per Calculator
Net Present Value	259.42 individuals	As per Calculator	268.07 individuals	As per Calculator
Total % Residual impact offset	106.76%	As per Calculator	104.72%	As per Calculator



Based on the above calculations, the surplus biodiversity credits available within the established offset site can adequately accommodate the credits generated by the proposed modification at a state and Federal level.

Appendix D: Original KEQ Biodiversity Offset Strategy

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