



CLEARY BROS

ABN: 28 000 157 808

Submissions Report

for the

Albion Park Quarry Extraction Area Stage 7 Extension

Major Project

Application No. SSD 10369

Prepared by:



RWCorkery&co

October 2022



RWCcorkery&co



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Prepared for:

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Acronyms

ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIP	Aboriginal Heritage Impact Permit
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
bcm	bank (or in situ) cubic metre
BDAR	Biodiversity Development Assessment Report
BMP	Biodiversity Management Plan
DPE	Department of Planning and Environment
EIS	<i>Environmental Impact Statement</i>
EPL	Environment Protection Licence
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
lcm	loose cubic metres
MAS	<i>Melaleuca armillaris</i> Tall Shrubland
Mt	million tonnes
RFI	Request for Information
RVZ	Riparian Vegetation Zone
RWC	R. W. Corkery & Co. Pty Limited
SAII	Serious and Irreversible Impact
SCSC	<i>Specialist Consultant Studies Compendium</i>
SEEC	Strategic Environmental and Engineering Consulting Pty Ltd
tpa	tonnes per annum
WM Act	<i>Water Management Act 2000</i>
WM Reg	<i>Water Management (General) Regulation 2018</i>



Executive Summary

Introduction

Cleary Bros (Bombo) Pty Limited (Cleary Bros) submitted an application for Development Consent for the Stage 7 extension within the extraction area for the Albion Park Quarry (the Quarry). The application was supported by an *Environmental Impact Statement* (EIS) prepared by R. W. Corkery & Co. Pty Limited (RWC). The EIS was exhibited from 20 May 2022 to 16 June 2022. During and following that period, 11 submissions were received by the Department of Planning and Environment (DPE) from Government Agencies and Shellharbour City Council. A total of 61 public submissions supporting the Project, as advertised, and no opposing submissions were received during the exhibition period. A number of representations were received by the DPE following the exhibition period principally relating to historic heritage issues.

Actions Taken Since Exhibition

A range of actions have been undertaken since exhibition of the original Project, including the following.

- The Stage 7 Extraction Area has been amended in order to reduce the impacts to the better condition classes of the *Melaleuca armillaris* Tall Shrubland Community and avoid impacts to the *Cynanchum elegans* population on the property.
- The nomenclature of the internal extraction stages within the Stage 7 Extraction Area have been modified to include Stage 7e (the former Eastern Rim).
- Those sections of the northern face of the Stage 7 Extraction Area that would be visible from the proposed Shellharbour Hospital, Dunmore Road have been redesigned to incorporate 7m high faces and 3m wide revegetated benches consistent with the visible western face of the Stage 7 Extraction Area.
- The final landform has been re-designed to provide for an outlet facility from the final southern sump to allow the passive discharge of surface water from the quarry excavation to local watercourses.
- A visual impacts analysis has been undertaken from the proposed Shellharbour Hospital site, Dunmore Road.
- Further investigations and assessment of impacts to the *Melaleuca armillaris* Tall Shrubland Community and planted vegetation communities have been undertaken in line with BAM 2020, as well as refinements of the *Zieria granulata* population.
- Sufficient groundwater entitlements have been secured for the life of the amended Project.
- Following approval from a fence line neighbour, an attempt to locate the groundwater bore GW100090 to the south of the amended Project Area has been undertaken, however the bore was not able to be located.

Responses to Matters Raised in Submissions

A response has been provided to each of the Government Agency submissions requiring a response.



1. Introduction

1.1 Scope

Cleary Bros (Bombo) Pty Limited (Cleary Bros) submitted an application for Development Consent for the Stage 7 extension within the extraction area for the Albion Park Quarry (the Quarry). The application was supported by an *Environmental Impact Statement* (EIS) prepared by R. W. Corkery & Co. Pty Limited (RWC). The EIS was exhibited from 20 May 2022 to 16 June 2022. During and following that period, 11 submissions were received by the Department of Planning and Environment (DPE) from Government Agencies and Shellharbour City Council. A total of 61 public submissions supporting the Project, as advertised, and no opposing submissions were received during the exhibition period. A number of representations were received by the DPE following the exhibition period principally relating to historic heritage issues.

This Submissions Report provides an analysis of, and responses to, the advice provided, and key matters outlined in Government agency and Council submissions. In addition, the proposed conditions of Development Consent suggested by some Government agencies have been considered. A total of four appendices are provided, as follows.

1. Register of submitters
2. Updated table of mitigation measures
3. Landscape Character Impact Assessment
4. Response to Request for Information - Noise and Blasting Assessment

This document has been prepared generally in accordance with the requirements of *State significant development guidelines – preparing a submissions report* dated November 2021.

This document should be read in conjunction with the *Amendment Report* dated October 2022, prepared to describe the amendments to the original Project, principally related to a reduction of disturbance in the Extraction Area.

1.2 Project Overview

An overview of the key elements of the amended Project is provided in **Table 1** and **Figure 1**.

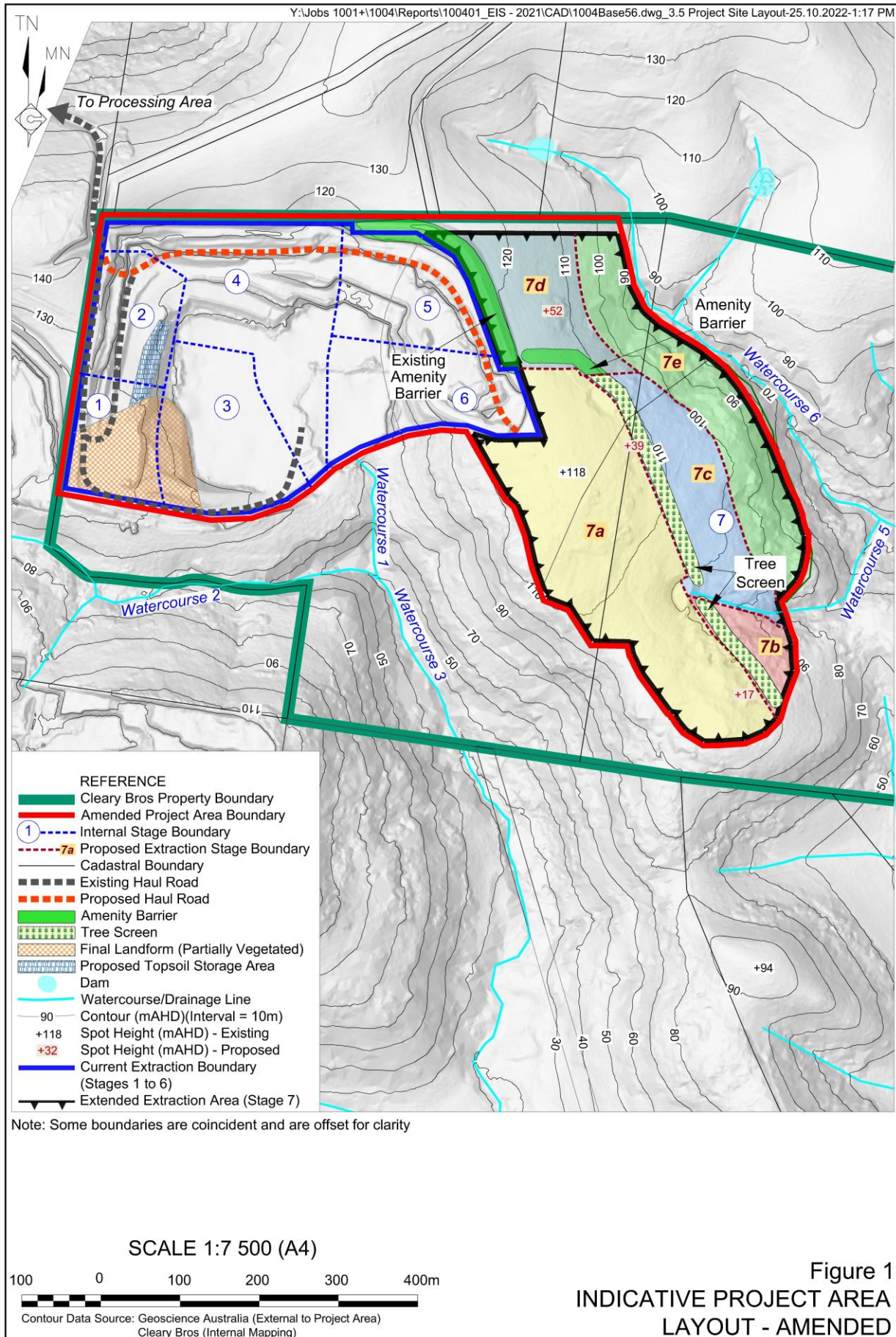




Table 1
Amended Project Overview

Element	Description
General Infrastructure	<ul style="list-style-type: none"> Internal access roads only. All other infrastructure is already in place/approved.
Amended Project Area	<ul style="list-style-type: none"> Stages 1 to 6 of the current approved extraction area and Stage 7 of the proposed extraction area extension. The amended Project Area is 1.9ha smaller than the original Project Area defined within the EIS principally as a result of the avoidance of high-moderate condition vegetation.
Extension Disturbance Area – Stage 7	<ul style="list-style-type: none"> Approximately 17.5ha (Figure 3)
Total Disturbance Area – Stages 1 to 7	<ul style="list-style-type: none"> Approximately 35.5ha (Figure 3)
Resource	<ul style="list-style-type: none"> The quantity of hard rock resources to be extracted in Stage 7 and remaining in Stages 1 to 6 (as at 30 September 2022) is approximately 26.6 million tonnes (Mt).
Overburden	<ul style="list-style-type: none"> Approximately 1.1 million bank cubic metres (M bcm)
Extraction Method	<ul style="list-style-type: none"> Conventional drill, blast, load and haul (no change from approved Stages 1 to 6).
Processing	<ul style="list-style-type: none"> All rock blasted within the amended Project Area would be primary crushed and screened with mobile equipment, the bulk of which would be transported for further processing by haul trucks to the already approved fixed processing plant on Cleary Bros' property north of the amended Project Area. Additional further processing of some of the primary crushed rock would also be undertaken within the amended Project Area using smaller mobile crushing and screening equipment.
Product Transportation	<ul style="list-style-type: none"> Not a component of the amended Project – already approved (see Section 1.3.3 of the EIS).
Annual Production	<ul style="list-style-type: none"> 900,000 tonnes per annum (tpa) (no change from approved Stages 1 to 6).
Mitigation Elements	<ul style="list-style-type: none"> An amenity barrier would be constructed and tree screen planted to provide a noise and/or visual barrier for the properties to the east of the Princes Highway in Shell Cove West during the first 10 to 15 years of operations in Stage 7. Extraction staging, namely sequential extraction of Stages 7a to 7e, would assist to minimise views of the operational areas and ensure that final benches would be revegetated prior to the western highwall becoming visible from surrounding areas. The amenity barrier and tree screen that was proposed between the "Figtree Hill" property and the Stage 7 extension will no longer be constructed, as agreed with the owners of "Figtree Hill".
Flexible Elements	<ul style="list-style-type: none"> Internal haul road locations; overburden emplacement; extraction sequencing; plant species used in progressive rehabilitation; equipment fleet; and personnel crib hut location.
Hours of Operation	<ul style="list-style-type: none"> 7:00am to 5.30pm Monday to Friday (no change from approved Stages 1 to 6). 7:00am to 1:00pm Saturday (no change from approved Stages 1 to 6), with operations in the Stage 7 Area on a maximum of 16 Saturdays per calendar year. No operations on Sundays or Public Holidays (no change from approved Stages 1 to 6).
Project Duration	<ul style="list-style-type: none"> 30 years, with an additional period required for final rehabilitation
Operational Workforce	<ul style="list-style-type: none"> Approximately 27 employees and contractors would continue to be directly involved in extraction and processing operations at the Quarry.



Table 1 (Cont'd)
Amended Project Overview

Page 2 of 2

Element	Description
Water Management	<ul style="list-style-type: none">• Surface water would be managed through the construction of diversion banks to re-direct clean runoff away from the active extraction area and sumps within the active extraction area to control sediment-laden runoff.• Mitigation measures would be used to ensure no pollution of surface water resources beyond the amended Project Area.• The final landform would include passive discharge of all surface water to local watercourses.
Water Usage	<ul style="list-style-type: none">• Expected maximum annual water usage for the Quarry would be 110ML principally for dust suppression. This water would be sourced from the Storage Dam and supplemented with water drawn from the sediment control sump(s) within the extraction area.
Rehabilitation	<ul style="list-style-type: none">• Rehabilitation would occur progressively throughout the life of the amended Project. The final landform is already partly formed in Stages 1, 2 and 3.• Future rehabilitation would focus on initial stabilisation of the areas to be disturbed and partial backfilling of the Stages 1 to 6 Extraction Area and southern section of the Stage 7 Extraction Area with overburden and VENM / ENM during Stage 7.• Vegetation would also be progressively established on the reshaped landform and those final or terminal extraction benches that would be visible from surrounding areas as they are completed.
Capital Investment Value	<ul style="list-style-type: none">• \$31,837,881– accounts for development costs for the demolition of the “Belmont” Main House and associated archaeological investigations, the construction of the amenity barriers and planting of the tree screens within the amended Project Area and the cost of a crushing, screening and mobile plant including planned replacements of existing equipment over the life of the amended Project, i.e. costs that would be incurred to extend the extraction operations into Stage 7.

An *Amendment Report*, dated October 2022, has been prepared to describe the key amendments to the original Project, including the following.

- A revised Extraction Area and adjusted extraction sequence.
- A redesign of the upper northern faces of the Stage 7 Extraction Area to incorporate 7m faces with 3m revegetated benches.
- Removal of the proposed northern amenity bund and tree screen following consultation with a neighbouring landholder.
- Minor amendment of the final void to prevent accumulation of excess surface water following completion of the amended Project.

This document should be read in conjunction with the *Amendment Report*.



2. Analysis of Submissions

2.1 Breakdown of Submissions

During and following the formal exhibition period (20 May 2022 to 16 June 2022), submissions were provided to DPE from the following Government Agencies and Shellharbour City Council.

- Biodiversity and Conservation Division
- Crown Lands
- DPE Hazards
- DPE Water
- Environment Protection Authority
- Heritage NSW
- Mining, Exploration and Geoscience
- Resources Regulator
- Transport for NSW
- Water NSW
- Shellharbour City Council (Council)

A total of 61 public submissions were received during the exhibition period, all of which were supportive of the Project, as advertised. No opposing submissions were received. **Appendix 1** presents a compilation of the submissions received. A number of representations were received by DPE following the exhibition period principally relating to historic heritage issues.

2.2 Categorising Issues

Issues raised by the Government Agencies and Council generally relate directly with the matters administered by the respective Agencies. In accordance with *State Significant Development Guidelines – Preparing a Submissions Report*, issues raised by all Government Agencies and Shellharbour City Council have been directly addressed in Section 4.



3. Actions Taken Since Exhibition

A range of actions have been undertaken since exhibition of the EIS for the original Project, including the following.

- The Stage 7 Extraction Area has been amended in order to reduce the impacts to the better condition classes of the *Melaleuca armillaris* Tall Shrubland community and avoid impacts to the *Cynanchum elegans* population on the property (see Section 3.4 of the *Amendment Report*).
- The nomenclature of the internal stage boundaries within the Stage 7 Extraction Area have been modified to include Stage 7e (the former Eastern Rim (see Section 3.5 4 of the *Amendment Report*).
- Those sections of the northern face of the Stage 7 Extraction Area that would be visible from the proposed Shellharbour Hospital, Dunmore Road have been re-designed to incorporate 7m high faces and 3m wide revegetated benches consistent with the western face of the Stage 7 Extraction Area (see Section 3.6 of the *Amendment Report*).
- The final landform has been re-designed to provide for an outlet facility from the final southern sump to allow the passive discharge of surface water from the rehabilitated landform to local watercourses (see Section 3.7 of the *Amendment Report*).
- A visual impacts analysis has been undertaken from the proposed Shellharbour Hospital site, Dunmore Road (see Section 6.2 of the *Amendment Report*).
- Further investigations and assessment of impacts to the *Melaleuca armillaris* Tall Shrubland Community and planted vegetation communities have been undertaken in line with BAM 2020, as well as refinements of the *Zieria granulata* population (see Section 6.3 of the *Amendment Report*).
- Sufficient groundwater entitlements have been secured for the life of the amended Project (see Section 4.2.5.1 of this document).
- Following approval from a fence line neighbour, an attempt to locate the groundwater bore GW100090 to the south of the amended Project Area has been undertaken, however the bore was not able to be located (see Section 4.2.5.3 of this document).



4. Response to Submissions

4.1 Introduction

This section provides a detailed response to those matters raised by all Government Agencies and Shellharbour City Council requiring further information or clarification. This Section also includes a response to Request for Information (RFI) 1 provided by DPE on 16 August 2022. Where relevant, text extracted or paraphrased from individual agency submissions is presented in *italics*, with responses to issues raised provided in normal text.

4.2 Government Agency and Council Submissions

4.2.1 Agencies with No Further Requirements for Assessment

The following Government Agencies responded with no formal comments or requirements for further assessment and, as a result, no response is required.

- Crown Lands
- Heritage NSW – Aboriginal Cultural and Historic Heritage
- Mining, Exploration and Geoscience
- Resources Regulator
- Transport for NSW
- Water NSW

4.2.2 Department of Planning and Environment – RFI 1

4.2.2.1 Amendment for Land Included in the Application

Cleary Bros must amend the application form to remove the land not included in the project. The only avenue to modify the application form is via a formal amendment. Cleary Bros must trigger the amendment process in the portal. If needed, the department can assist.

Any other project components proposed for amendment should also be incorporated into an amended application and associated Amendment Report. For example, amendments due to further avoidance of impacts on biodiversity or other assessment aspects (see the section on visual below).



Response

An *Amendment Report* has been submitted via the Planning Portal and the application form amended with only the correct land titles included. In summary, the amended Project Area includes the following land titles only.

- Lot 1 DP858245
- Lot 7 DP3709

4.2.2.2 Quarry Design and Final Landform

Project Life

The additional information must consider a quarry progression plan and final landform achieved within a maximum 30-year timeframe. Other proposed amendments to minimise the impacts of the project should also be considered (e.g. biodiversity and visual).

Additional Information Required

- *Operational plans for extraction with operations ceasing at 30 years.*

Response

This matter is addressed in Sections 3.3 to 3.5 of the *Amendment Report* as well as Sections 3.4.3, 3.6.2 and 3.9 of the amended Project Description. In summary, **Figure 1** presents the amended Stage 7 Extraction Area which has been reduced in size from 19.4ha to approximately 17.5ha. The reduced Extraction Area, together with depletion of the resource in Stages 1 to 6 between May 2019 and September 2022, has resulted in an amended resource estimate of 26.6Mt of latite and agglomerate. At a production rate of up to 900,000tpa, the life of the amended Project would be approximately 30 years

- *Timing of relevant stages throughout the proposed quarry life.*

Response

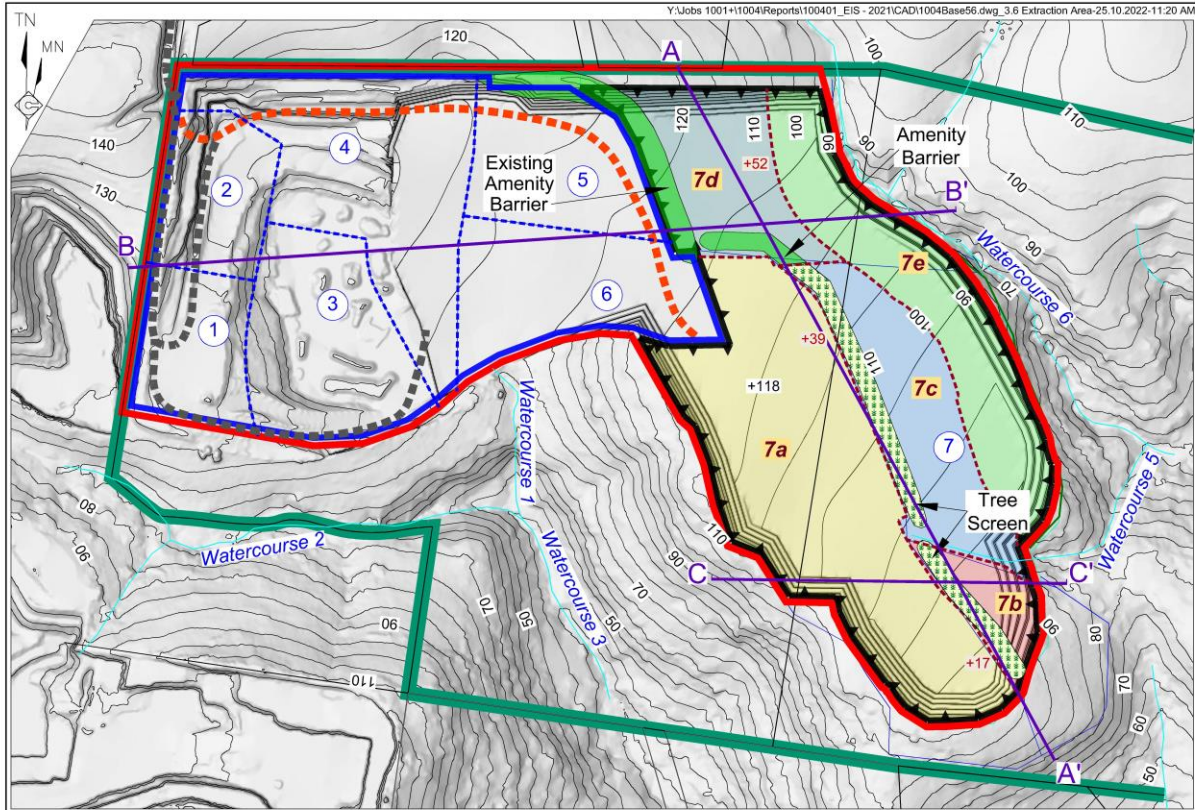
Figures 2 and **3** present the amended Extraction Area staging and sequencing and **Table 2** the indicative timing for extraction within the remainder of Stages 1 to 6 and for each of the five stages in Stage 7.

Table 2
Indicative Duration of Staged Extraction Operations

Stage	Indicative Resource (Mt)	Indicative Timing (years)
1 to 6	3.1	continuing to 2026
7a	7.7	2023 to 2035
7b	1.9	2033 to 2036
7c	4.9	2034 to 2043
7d	3.4	2041 to 2047
7e	5.5	2045 to 2053



Cleary Bros (Bombo) Pty Ltd
 Albion Park Quarry Extraction Area Stage 7 Extension



Note: Some boundaries are coincident and are offset for clarity

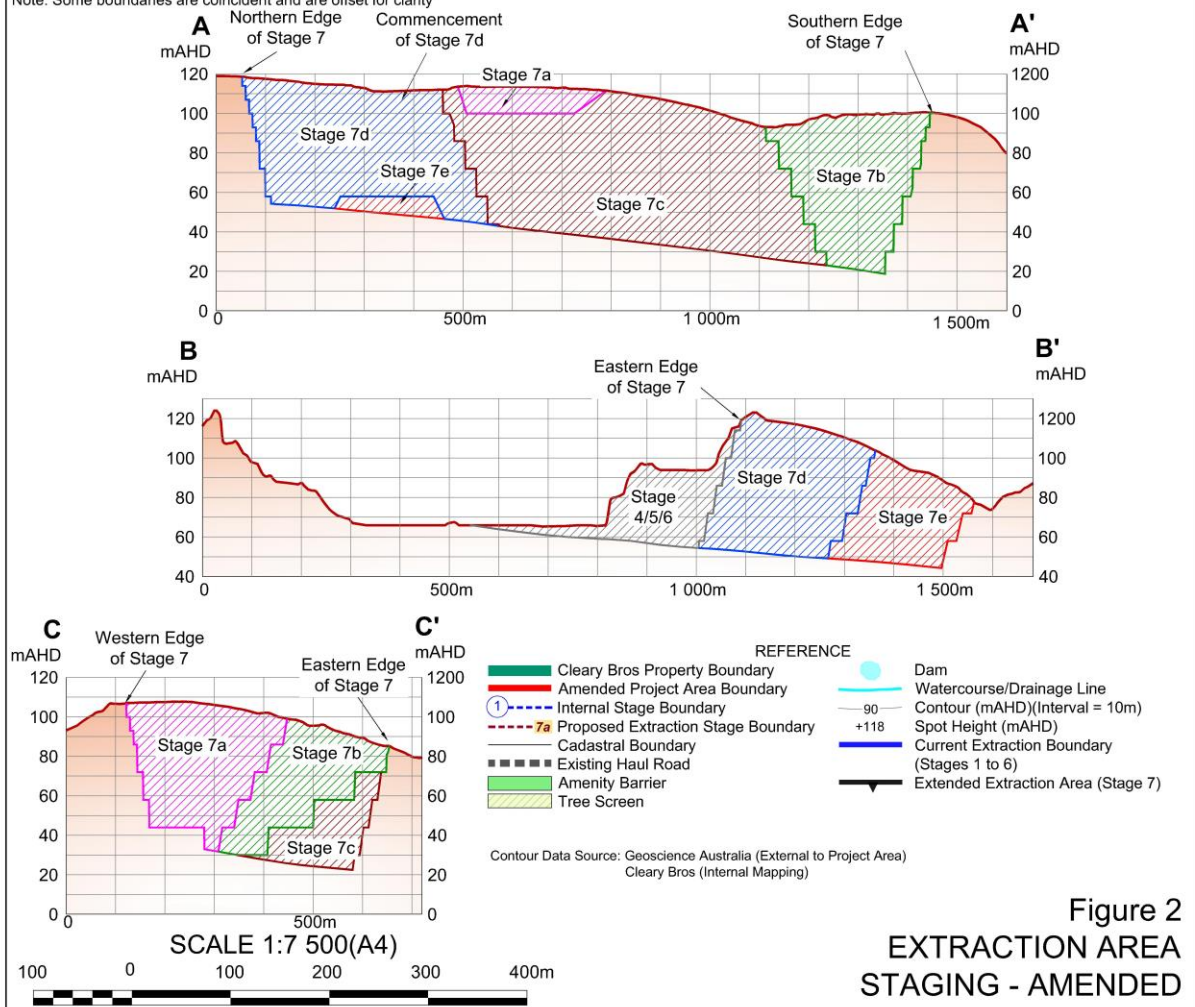
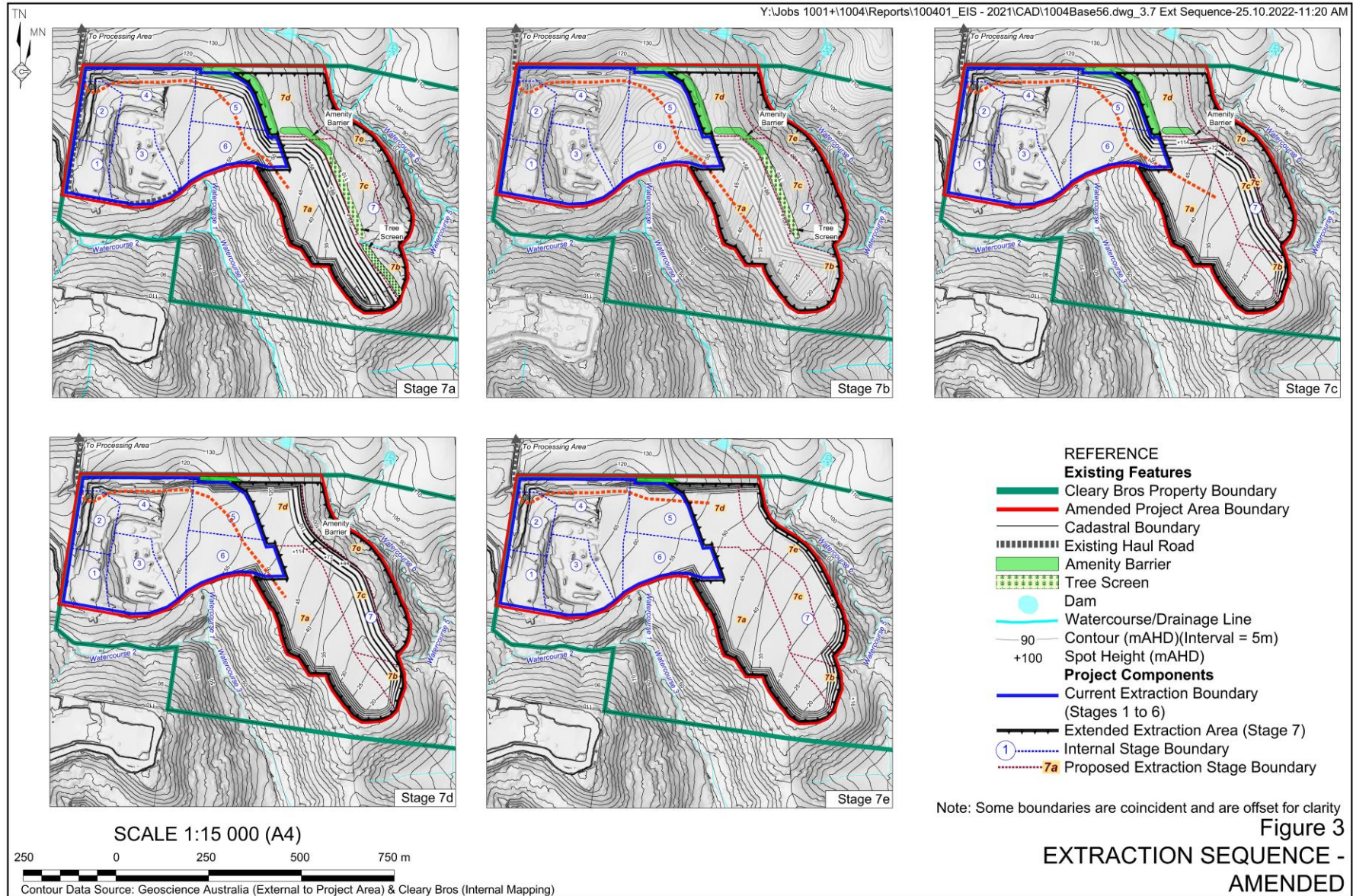


Figure 2
EXTRACTION AREA
STAGING - AMENDED



Cleary Bros (Bombo) Pty Ltd
 Albion Park Quarry Extraction Area Stage 7 Extension

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- *Rehabilitation and final landform design for operations ceasing at 30 years.*

Response

This matter is addressed in Section 3.12.5 of Appendix 1 of the *Amendment Report*. In summary, **Figure 4** presents the amended indicative final landform reflecting the reduced footprint of Stage 7 and the revised backfilling of the Extraction Area.

The additional information must also consider the potential impact of the existing development consent DA614/2006 ceasing in 2036. If Shellharbour City Council refused the extension to DA614/2006, Cleary Bros would not be able to access the Stage 7 extension.

Response

This matter is addressed in Section 3.12.5 of Appendix 1 the *Amendment Report*. In summary, **Figure 5** presents the anticipated final landform that would be developed in the event Cleary Bros are no longer able to transport material across Lot 2 DP 858245, and is based on the progression of the amended Project at the end of Stage 7b, expected to be completed in approximately 2036.

In the event that Cleary Bros has not received Development Consent to extend the access from its northern property across Lot 2 DP 858245 to the Stage 7 Extraction Area by 2031, Cleary Bros proposes to prepare a pre-closure rehabilitation plan i.e. 5 years prior to the expiry of the existing Development Consent DA614/2006. This plan would be implemented in the unlikely event the required development consent is not obtained by 2036.

The department requires an assessment of:

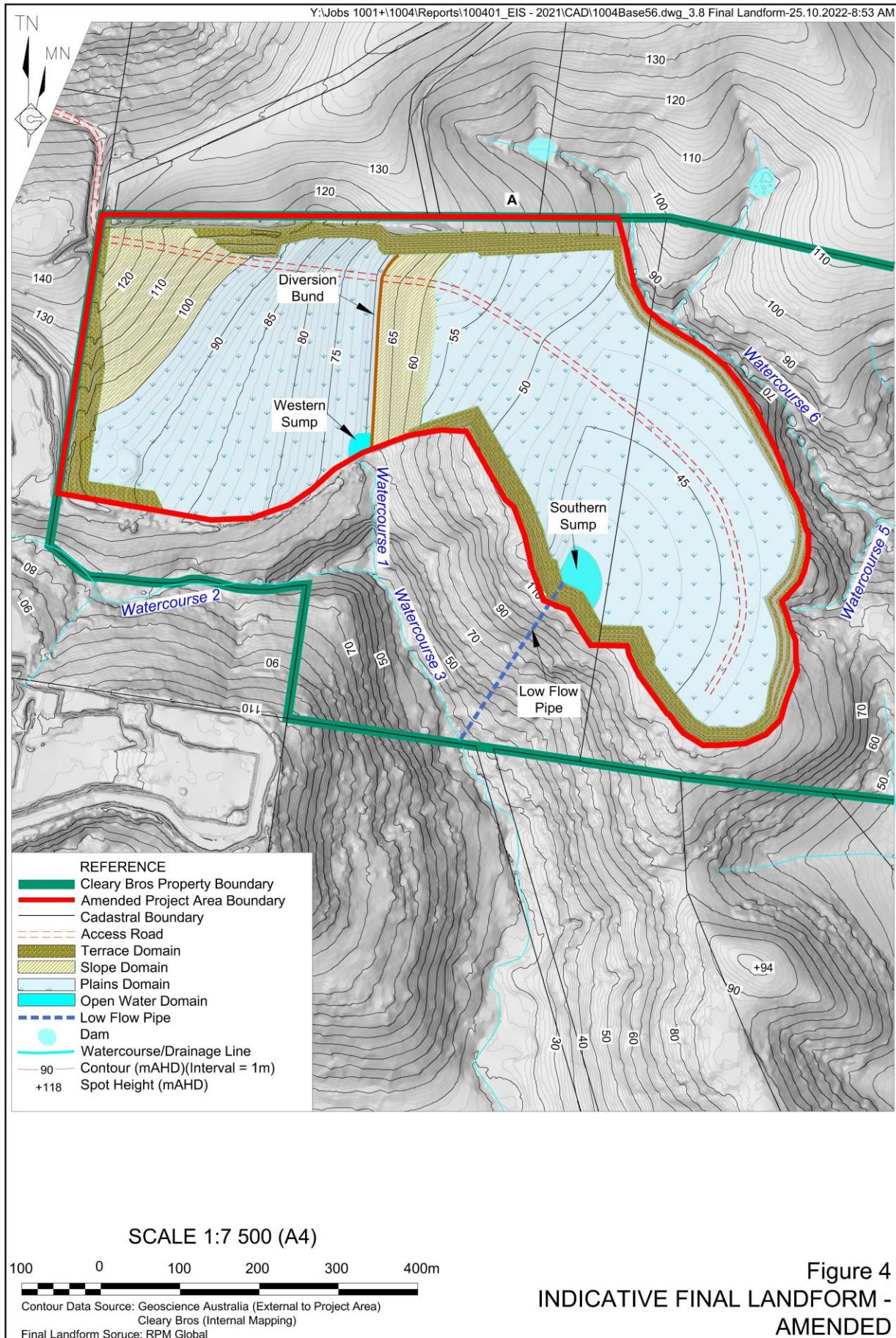
- *risks associated with the potential loss of access potential.*

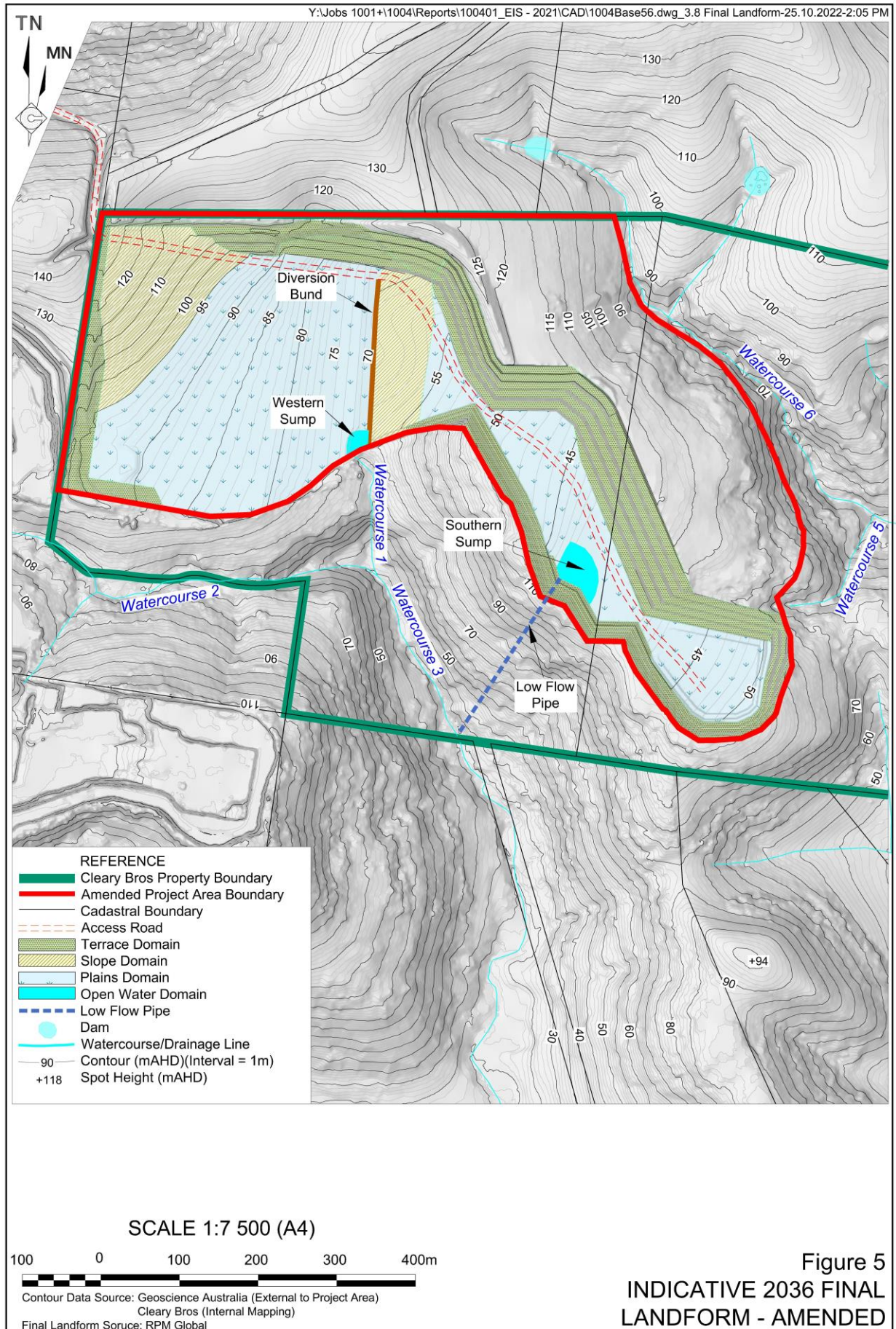
Response

Cleary Bros considers that the risk of loss of access to the Extraction Area to be negligible. Firstly, Cleary Bros has commenced discussions with the owners of Lot 2 DP858245 who have indicated that they would be willing to provide landholders consent for an application to modify or replace DA614/2006 which permits use of the existing haul road. In addition, Cleary Bros has discussed modification / replacement of DA614/2006 with Shellharbour City Council who do not anticipate an impediment to the proposed application. Finally, Cleary Bros notes that the continued use of the haul road would not result in additional environmental impacts, other than extending the use of the road.

In light of the above, Cleary Bros will seek to modify or replace DA614/2006 following granting of development consent for Stage 7.

In the event that DA614/2006 is not modified or replaced or an alternate route secured by 2031, Cleary Bros would proceed with the preparation of the pre-closure rehabilitation plan which would be implemented in the unlikely event the required development consent is not obtained by 2036.







-
- *Mitigation measures to manage the identified risks.*

Response

Cleary Bros will maintain its positive working relationship with its neighbours. In the event that DA614/2006 is not modified or replaced or an alternate route secured by 2031, Cleary Bros would proceed with the preparation of the pre-closure rehabilitation plan which would be implemented in the unlikely event the required development consent is not obtained by 2036.

-
- *A snapshot of proposed operations in 2036.*

Response

This matter has been addressed above.

Water Management

The completion of stage 7d would leave a 192,500 m² catchment with an annual average runoff of 147.69 mega litres (ML). The EIS states "Runoff in the north-eastern section of Stage 7 would report to the Central Sump, and from there to the Southern Sump."

The water collected in the central and southern sumps does not have a discharge point to allow excessive water volumes to be discharged from the final void until the water levels reach 60mAHD and spill into the western sump.

The department considers there is a reasonable risk the proposed final void would result in a substantial water storage.

The department requires an assessment of:

- *The final void water storages, particularly the central and southern sumps.*

Response

This matter is addressed in Section 3.7 of the main body and Section 3.12.6.2 of Appendix 1 of the *Amendment Report*. In summary, Cleary Bros has amended the final landform design to include a minor water storage adjacent to the western face of the Stage 7 Extraction Area (**Figure 4**). The water storage would have a volume significantly less than 1ML and would have a low flow passive discharge pipe installed. The low flow discharge pipe would be a shallowly inclined, suitably cased drillhole approximately 175m long that would permit accumulated water within the Southern Sump to passively discharge to Watercourse 3. The low flow pipe would be designed by a suitably qualified hydraulic engineer in a manner that would permit passive discharge of accumulated water post closure. In summary, however, the low flow pipe would have the following design criteria.

- The inlet would be protected to prevent silting up of the pipe and blockage of the inlet. The inlet would also be designed in a manner that would permit access for maintenance as required.

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- The diameter of the pipe would be selected to limit the potential for blockage and to permit transfer of water at a rate that would not result in erosion of Watercourse 3 or extended inundation of the floor of the Extraction Area surrounding the Southern Sump.
- The outlet would be protected with an energy dissipator to minimise the potential for scour of Watercourse 3.

The Western Sump would also be significantly less than IML in volume and would overflow to Watercourse 1 at the Western Discharge Point. Cleary Bros would aim to maximise the area of the Stage 1 to 6 Extraction Area which would drain to the Western Sump and overflow to Watercourse 1.

The Central Sump is no longer proposed.

Finally, Cleary Bros would ensure that these passive discharge structures are only operational once testing has confirmed that the final landform is non-polluting and that water to be discharged will be of equivalent quality to that within the receiving watercourses.

In light of the above, Cleary Bros contends that the final void would not accumulate significant volumes of water, and would be generally consistent with the pre-quarrying environment of small farm dams on minor tributaries.

-
- *A final landform water balance.*

Response

Given that the proposed amended final landform would include passive discharge of accumulated surface water, there would be no retention of significant volumes of water within final Extraction Area and, as a result, no requirement for a final landform water balance.

-
- *Proposed mitigation measures for groundwater and surface water inflows in dry and wet years.*

Response

The principal mitigation measure to manage the accumulation of excessive water within the Stage 7 Extraction Area would be the installation of a low flow pipe to permit controlled, passive discharge of accumulated water, whether that be surface water or groundwater. This would ensure all groundwater and surface water inflows to the final void are returned to the environment irrespective of climatic variations.

Proposed Highwall Landform and Revegetation

The EIS proposes the construction of a benched landform on the exposed quarry faces. The proposed landform would include 75-90 [degree] walls ranging from 7 to 14 meters high with benches ranging from 3 to 5 meters wide. The rehabilitation plan proposes vegetation on the benches to screen the exposed walls.



The Department considers there is limited justification/ evidence provided to support the conclusion that vegetation would be effectively established and maintained in the long term to provide visual screening of the exposed walls.

The Department considers the risk of the rehabilitation failing to be high due to:

- *inadequate rooting depth for vegetation with a canopy height of 7 to 14 metres;*
- *insufficient nutrient fixation and cycling;*
- *impacts of runoff and soil erosion;*
- *lack of deep drainage;*
- *difficult maintenance environment; and*
- *likely weed infestation*

Response

Cleary Bros notes the Department's comments in relation to challenges associated with rehabilitation of quarry benches. However, evidence of natural recruitment on similar benches within the Albion Park Quarry is evidence that the proposed rehabilitation of the highwalls is not only possible, but that it has a high probability of success. In summary, the Applicant has previously extracted material within Pit 1 and Pit 2 (see EIS Figure 1.3). No attempt has been made to rehabilitate these extraction areas at this point in time, with no soil or overburden spread and no active revegetation undertaken.

Plate 1 presents a view of the northern face of Pit 1 where Forest Red Gum (*Eucalyptus tereticornis*), *Pittosporum* and *Acacia* species have self-seeded and become established on a bench that is up to 4m wide, and narrower in parts. The faces in that section of Pit 1 are approximately 7m high and the Forest Red Gum has grown to at least that height, with *Pittosporum* expected to grow to 7m to 9m in height. The vegetation has become established in latite scree and talus from the face behind, with no overburden or soil spread on the bench.

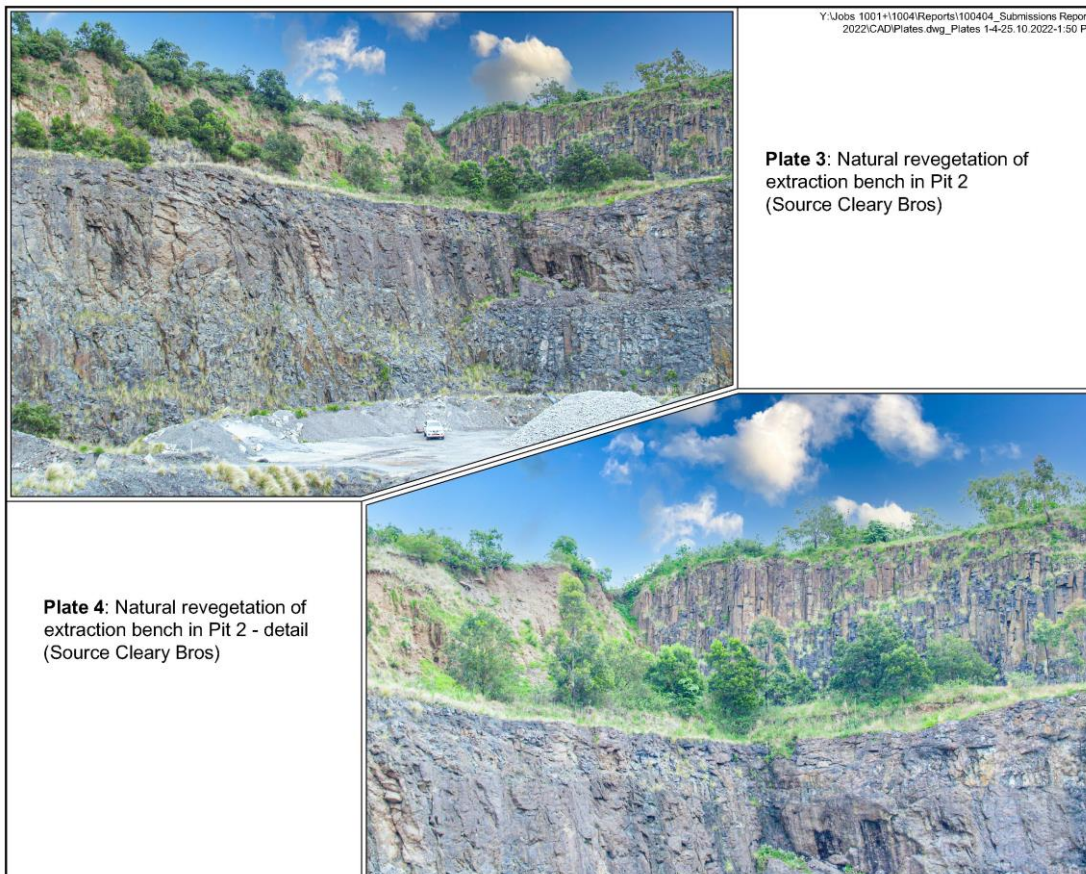
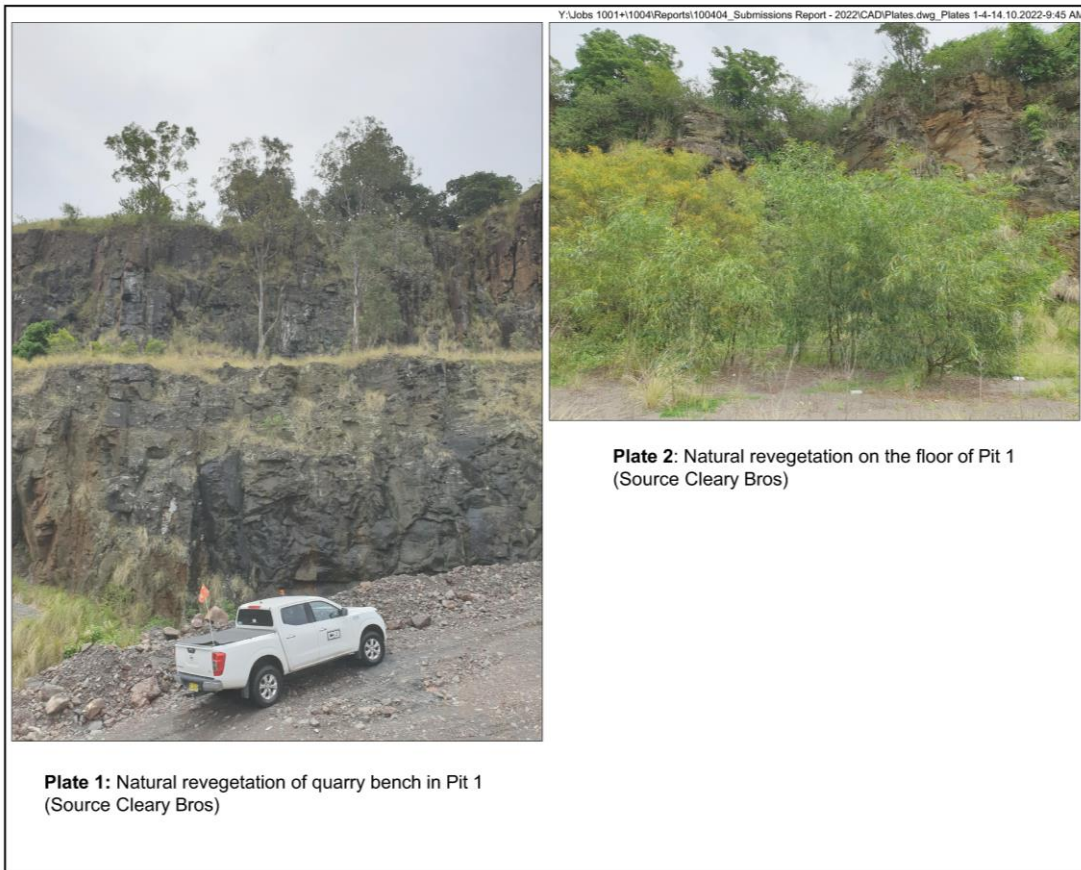
Plate 2 presents a view of dense *Acacia* growing on the floor of Pit 1. The vegetation is growing in a thin layer sediment derived from an adjacent crusher dust stockpile and while the *Acacia* would not be expected to reach the height of other species, it is fast growing and provides a dense vegetation coverage which obscures the rock face behind.

Plates 3 and 4 present views of the southwest corner of Pit 2 with well-established *Acacia*, *E. tereticornis*, and other species on the bench (likely *Pittosporum* and other rainforest species). It is noted that Pit 2 in this location is approximately 60m deep and that the upper face is assumed to be approximately 20m high. Again, the existing vegetation is growing in latite scree and talus from the face behind, with no overburden or soil spread on the bench.

In addition to the success of natural quarry bench revegetation at the Albion Park Quarry, Cleary Bros has sought evidence of similar rehabilitation of quarry highwalls at other operations, which are in less favourable growing environments. The following presents an overview of two examples of successful quarry bench rehabilitation.



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Example 1 – Teralba Quarry – Metromix Pty Ltd

Metromix Pty Ltd (Metromix) operates the Teralba Quarry at Teralba near Newcastle where conglomerate is extracted through the use of blasting. Final faces are typically 8m high and benches are typically 4m to 5m wide.

Metromix implements the following procedure during quarry bench revegetation operations.

- Variable amounts of overburden up to 0.5m thick are placed on the final benches, recognising that blasting to create the benches invariably leaves a slightly fractured surface on the top of each bench which supports the deeper rooting of vegetation.
- Whenever possible, logs and branches are placed on the bench surface to assist in managing rainfall runoff and limiting erosion and providing a microclimate for plant growth.
- Tube stock of trees and shrubs are propagated and planted on the benches by a team of bush regenerators using locally sourced seed. The trees and shrubs are typically planted at 3m to 4m spacings in autumn.
- Hand watering is undertaken during some summer periods when natural rainfall is insufficient.
- Hand weeding was undertaken periodically.

Plates 5 and **6** presents a view of the revegetated benches at the Teralba Quarry. Planted vegetation on the benches has become established with a mixture of tree, shrub and grass species. In addition, Metromix notes that some vegetation has grown from naturally dispersed seed.

Example 2 – Jandra Quarry – Holcim Australia Pty Limited

Holcim Australia Pty Limited (Holcim) operate the Jandra Quarry at Possum Brush on the NSW Mid North Coast. The faces created by blasting are typically 12m high and the benches 6m wide.

Plate 7 presents a view of the rehabilitated benches. Limited information is available in relation to the revegetation methods employed, however, limited overburden or soil is evident in **Plate 7**. Revegetation has been successful, with natural regeneration largely obscuring the face.

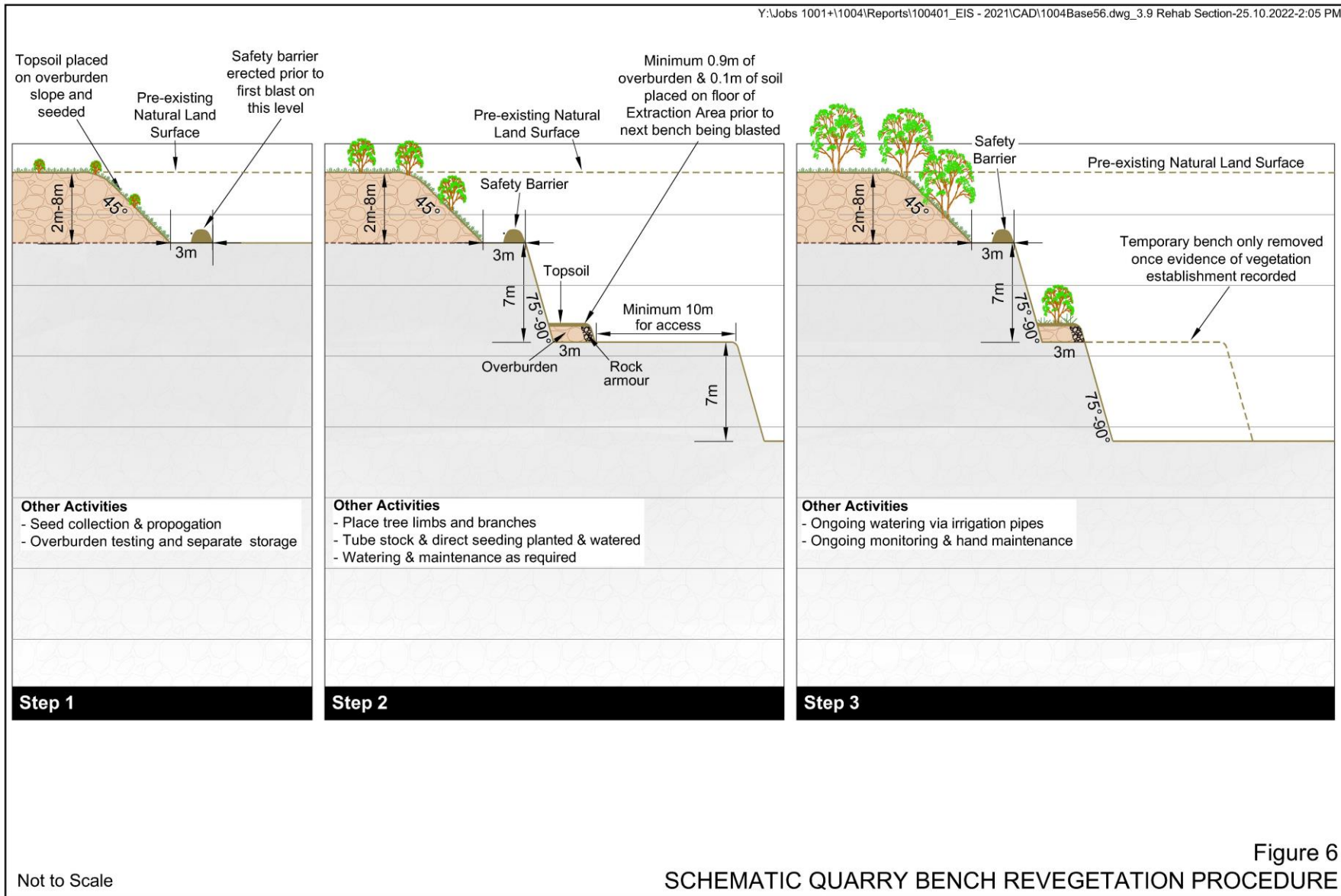
Proposed Revegetation Operations

The following presents a brief description of the proposed rehabilitation methods. **Figure 6** presents a schematic overview of each of the identified steps.

1. Planning for highwall rehabilitation would start well in advance of its commencement to ensure that the most appropriate substrate materials and tree limbs or branches to be used are identified and set aside. Planning would also involve the seed collection and plant propagation in readiness for planting. Cleary Bros has a long-established relationship with a local production nursery, who would be involved in plant propagation.



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Plate 5: Teralba Quarry terminal bench with placed timber and plants - 2017 (Source - Metromix Pty Ltd)



Plate 6: Teralba Quarry vegetation growth - 2021 (Source - Metromix Pty Ltd)

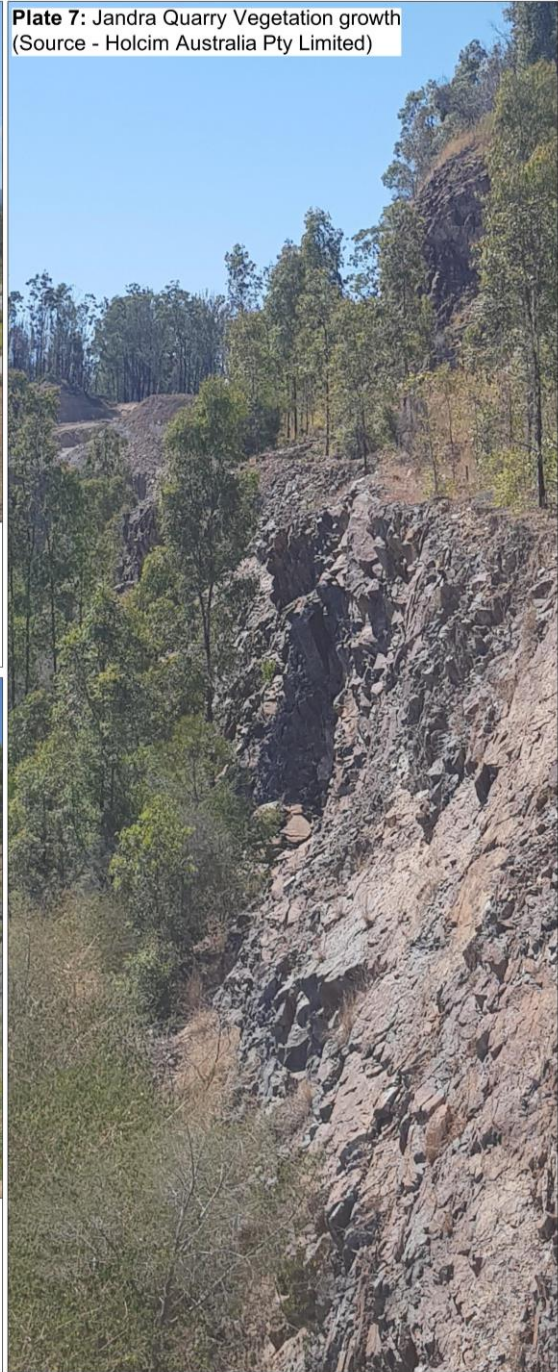


Plate 7: Jandra Quarry Vegetation growth (Source - Holcim Australia Pty Limited)

2. Once a final face is created, and before the next bench is blasted, Cleary Bros would implement the following.
 - Select overburden with the appropriate characteristics for use as substrate.
 - Place overburden and soil (where required) to a depth of 1m (at the thickest extent), with the outer surface rock armoured. The upper surface would be roughened and sloped towards the back of the bench to retain rainfall.
 - Place available tree limbs or branches on the upper surface of the overburden.

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- Plant the propagated tube stock together with the scattering of collected seed.
 - Implement a program of initial watering using a water truck, if required.
3. Maintain a temporary bench at least 10m wide to permit vehicular access and maintenance until evidence of vegetation establishment has been recorded. Only once regular maintenance is no longer required would the temporary bench be removed. If watering is still required, it would be achieved using irrigation pipes.

Monitor the growth of the planted trees and shrubs on a quarterly basis for the first year and biannually thereafter.

Undertake weed and pest control programs, as required.

In order to ensure compliance with the revegetation commitments above, Cleary Bros would not commence extraction from Stage 7e until such time as the standard of rehabilitation on the western wall of Stage 7 satisfies the following criteria.

- Surviving tree species – average interval between individuals along the bench no greater than 7m, with an average height no less than 2m below the top of the bench above.
- Surviving shrub species – average interval between individuals along the bench no greater than 3.5m, with an average height of no less than 1m.

The Department requires further assessment of alternative pit designs and final landform design(s) for the 30 year Quarry Plan that would:

- *increase the viability of the proposed rehabilitation during operations but also post-closure; and*
- *avoid the extensive exposure of the western quarry face to the visual receptors to the east and southeast of the proposed project area (see further comments below).*

Response

Cleary Bros has revised both the proposed extent of the Extraction Area as well as the proposed final landform within the Extraction Area (see Sections 3.4 to 3.6 of the *Amendment Report*). The revised final landform in particular would ensure that the floor of the Extraction Area is not periodically inundated and would maximise the viability of the proposed rehabilitation.

The Company has also made a range of commitments in relation to rehabilitation of the quarry highwalls and contends that these commitments adequately address issues associated with exposure of the western quarry face to observers to the east of the amended Project Area.

Rehabilitation Strategy

The Secretary's Environmental Assessment Requirements (SEARs) required the preparation of a proposed rehabilitation strategy for the site having regard to the key principles in the Strategic Framework for Mine Closure.

The department considers further information is required to inform the rehabilitation strategy.



The department requires the following additional information:

- *Identification of stakeholders who should be included in the quarry closure process and proposed consultation strategy throughout the proposed quarry life for the relevant stakeholders.*

Response

Cleary Bros recognises that involvement of stakeholders throughout the rehabilitation process for the amended Project can maintain a level of confidence with those stakeholders that the rehabilitation methods, etc. being adopted are being undertaken appropriately and that both the short-term and long-term results (including quarry closure) are acceptable.

The key stakeholders that Cleary Bros would involve during preparation of the rehabilitation strategy and throughout the rehabilitation process would include but not be limited to the following.

- Community Consultative Committee
- Adjoining landowners
- Shellharbour City Council
- Department of Planning and Environment
- Environmental Protection Authority

-
- *Identification of the risks considered in the development of the rehabilitation strategy and how these have influenced the proposed rehabilitation strategy, demonstrating the management of cost and uncertainty.*

Response

The key risks considered in the development of the rehabilitation strategy and Cleary Bros' approach to managing those risks are as follows. It is noted that Cleary Bros would undertake the rehabilitation program under the guidance of an experienced bush regenerator who would oversee the program and the relevant risks.

1. Rooting Depth

It would be important that an appropriate substrate is used on the surface of all benches to provide for sufficient rooting depth and water retention. The depth of accumulated material on the benches of Pit 1 and Pit 2 with good natural growth would be examined to ensure the proposed 1m of overburden would be sufficient to replicate these successes.

2. Nutrients

It will be necessary for the concentrations of nutrients in the substrate on the benches to be appropriate to ensure optimal growth. The concentrations of nutrients in the overburden to be used as a substrate on the benches (sourced from the Stage 7 area) should be sufficient to support effective growth of trees and shrubs. The selection of overburden used as a substrate would be undertaken in conjunction with nutrient testing.



3. Moisture

It will be necessary to ensure that adequate moisture is available within the substrate to facilitate growth of the planted and subsequently naturally regenerating vegetation, particularly immediately after seeding/planting as the vegetation becomes self-sustaining. Initially, the planted benches would be watered using a water cart. Once vehicular access to the bench is no longer possible and until the vegetation is well established, continued watering would be achieved using irrigation pipe. Finally, once the vegetation has become established the coastal climate, with an average of 123 rain days per year, would ensure suitable soil moisture on the rehabilitated benches.

4. Erosion

It is envisaged that emphasis would be placed upon the use of overburden as the principle substrate on the rehabilitated benches. Given the planned roughened upper surface and backslope towards the extraction face, much of the rainfall on the benches would remain on the benches. The length of the overland flow paths of water running off each bench would be minimal due to the very small catchment, and combined with the rough nature of the placed overburden, there would be minimal erosion of the overburden substrate.

5. Weed Management

Excessive weed growth can restrict plant growth through the competition for moisture and crowding over growing plants. The presence of weeds on the benches would be managed through regular weed control (at optimal times of year).

Cleary Bros anticipates that weed growth on the benches would be manageable given the use of overburden as a substrate would generate little weed growth. Furthermore, the final benches would be located generally in an area surrounded by native vegetation which should minimise the opportunity for wind-blown weed seeds to establish on the final benches.

6. Rehabilitation Monitoring and Maintenance

The monitoring and maintenance of the rehabilitated benches would be critical to both their short-term and long-term success. The maintenance activities required would involve:

- i) watering during the early periods of growth until well established and self-sufficient;
- ii) weed management, i.e. suppression or removal of weeds;
- iii) enhancement of localised growth condition around individual plants – in order to maximise water retention;
- iv) replacement of any dead plants and/or increasing the density of specific species as the rehabilitation progresses; and



- v) an adaptive strategy which will evolve upon site experience.

All monitoring and maintenance would be undertaken manually with Cleary Bros and/or contracted labour. In recognition of the presence of either a 7m or 14m drop off approximately 3m from each face, a personnel safety procedure would be implemented, such as an engineered fall restraint system at the top of each highwall to ensure safe access.

Cleary Bros is confident that all of rehabilitation risks can be successfully managed to ensure the required level of vegetation grown on the final benches can be achieved.

-
- *An adaptive management approach which:*
 - *links the final land use with the rehabilitation objectives*
 - *applies completion criteria to satisfy the objectives and reflect the environmental, social, and economic circumstances of the site*
 - *provides performance indicators against each completion criteria*
 - *includes monitoring of the performance indicators as a means of determining rehabilitation progress and success against the original objectives*
 - *a process of adapting the rehabilitation strategy if monitoring identifies difficulties in achieving the original objectives*

Response

Cleary Bros acknowledges that an adaptive management approach to the rehabilitation activities would be essential to ensure successful rehabilitation of the amended Project Area. The Company anticipates that an updated *Rehabilitation Management Plan* would be prepared following granting of development consent.

EIS Section 3.12.9 outlines the principal final land uses within the amended Project Area after the cessation of extraction activities with the objective to provide for agricultural activities and nature conservation. Consistent with EIS Section 3.12.7, rehabilitation completion criteria and performance indicators relevant to each land use include the following.

- Agricultural activities.
 - Rehabilitated area stabilised with hydromulch and grasses have a 70% grass coverage within 3 months.
 - Water quality accumulating within the final landform is acceptable for discharge i.e. satisfying the criteria in EPL 299, namely:
 - total suspended solids <50mg/L or an equivalent turbidity as approved by the EPA; and
 - pH between 6.5 and 8.5.
 - Rehabilitated area is free of significant weed or feral animal issues, consistent with the surrounding areas.



- Nature conservation.
 - Surviving tree species – average interval between individuals along the bench no greater than 7m, with an average height no less than 2m below the top of the bench above for 7m high faces and no less than 9m below the top of the bench above for 14m high faces.
 - Surviving shrub species – average interval between individuals along the bench no greater than 3.5m, with an average height of no less than 1m.
 - Evidence of natural recruitment of tree and/or shrub species.
 - The annual growth of trees and shrubs is commensurate with growth rates for the respective species.
 - Water quality accumulating within the final landform is acceptable for discharge i.e. satisfying the criteria in EPL 299, namely:
 - total suspended solids <50mg/L or an equivalent turbidity as approved by the EPA; and
 - pH between 6.5 and 8.5.
 - Rehabilitated area is free of significant weed or feral animal issues, consistent with the surrounding areas.

Monitoring of rehabilitated areas, including against the objectives and completion criteria would be undertaken as described in EIS Section 3.12.8, with monitoring undertaken initially quarterly, with the frequency of monitoring gradually reduced as the vegetation becomes established. Monitoring results would be reported in each *Annual Review* to be completed for the amended Project.

Finally, where monitoring of both performance indicators and completion criteria identify that the original rehabilitation objectives may not be achieved, Cleary Bros would seek advice from suitably qualified bush regenerators or other experts to identify methods to achieve the identified rehabilitation objectives or to identify, in consultation with the stakeholders identified above, relevant alternative rehabilitation objectives.

-
- *Adequate consideration of receivers R1, R2 and R3 in the proposed rehabilitation strategy and the management of post-closure impacts.*

Response

The proposed rehabilitation strategy for the amended Project has been discussed with the owners of Residences R1, R2 and R3. Cleary Bros will continue to consult with the owners, as stakeholders, in the progress of the rehabilitation activities throughout the life of the amended Project.



-
- *Identification of any on-going management/monitoring post-closure.*

Response

Cleary Bros anticipates that the planned monitoring and related maintenance of the rehabilitated final landform described above would continue beyond the end of the operational life of the extraction area. This would continue until such time as the DPE, in consultation with the identified stakeholders is able to express its agreement that all rehabilitation completion criteria have been satisfactorily met.

-
- *An assessment of the cost of closure, including different closure scenarios.*

Response

Cleary Bros' approach to the progressive rehabilitation of the extraction area would involve the incorporation of rehabilitation costs within the overall production costs for the products produced within the Quarry. It is not necessary to consider different closure scenarios at this stage. Consideration of alternative closure scenarios would be best considered at least 5 years prior to the forecast closure.

-
- *A strategy to develop the post-closure land use as strategic planning in the Dunmore area progresses.*

Response

In EIS Section 3.12.9, reference is made to the strategic approach for all quarries in the Dunmore Hills later this century. It is most likely that planners at that time will consider the most appropriate and sustainable land uses in this area, much in the same way as the *Illawarra/Shoalhaven Regional Plan 2041* is currently considering for the Bombo Quarry lands. Cleary Bros or its successors would participate in and contribute to such a study, but development of regional strategic land use strategies is not a matter within the remit of Cleary Bros.

4.2.2.3 Visual Impact Assessment

The proposed extension has the potential to result in significant visual impacts both during and after operations. The Department considers that further information is required on visual impacts given the risk and consequences of the potential impact.

The proposal has the potential to generate views of up to 65 metres of exposed quarry face up to 800 metres long.

Response

Cleary Bros note that the views referenced above, namely “views of up to 65 metres of exposed quarry face up to 800 metres long” in fact relate to views across the rehabilitated areas within Stages 1 to 6 once the landform within Stage 7e is removed. The vegetated landform would generate negligible visual impacts.

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The Company notes that views of up to 38m of the exposed western quarry face would be available from Site 3a after completion of Stage 7e from a distance of approximately 2km (see Figure 20 of the *Visual Impact Assessment*). At that distance, the quarry face would occupy approximately 1° of an observer's vertical field of view.

As identified in Section 4.2.7.7, the proposed general location of the new Shellharbour Hospital was announced in mid-2021 and to Cleary Bros' knowledge, no information is available in relation to the design or layout of the proposed development. Section 4.2.7.7 presents an assessment of the visual impact of the amended Project from the general location of the proposed Hospital. However, in summary, views of up to 42m of the exposed northern extraction faces would be available from the Hospital site after completion of Stage 7e from a distance of approximately 2.5km. At that distance, the quarry face would occupy approximately 1° of an observer's vertical field of view.

The Department considers the precinct scale view would have a significant impact on the local and regional viewshed. The proposal relies on successful rehabilitation to mitigate the potential impact, however as outlined above, the Department considers there is insufficient information to support a conclusion that rehabilitation would successfully mitigate these visual impacts.

Response

This matter has been addressed above and Cleary Bros contends that the progressive nature of the rehabilitation, natural recruitment of vegetation on benches and the substantial period of time between rehabilitation and exposure of those faces, would ensure that visual impacts associated with the rehabilitated quarry faces would be adequately addressed.

Importantly, the Company would not proceed with the extraction of Stage 7e until such time as the standard of bench rehabilitation on the visible faces of Stage 7a satisfies the following criteria.

- Surviving tree species – average interval between individuals along the bench no greater than 7m, with an average height no less than 2m below the top of the bench above.
- Surviving shrub species – average interval between individuals along the bench no greater than 3.5m, with an average height of no less than 1m.

The Visual Impact Assessment does not consider the potential impact of the ridgeline reduction and shape change on the views of surrounding residences.

Additional visual impact assessment required.

- *Assessment of alternative quarry designs which would limit the exposure of the quarry face to the east, including at a minimum consideration of a 30-year mine plan as discussed above (see comments above particularly in relation to the mine sequence identified in Figure 3.7 up to “commencement of Stage 7d”.*



Response

Cleary Bros has reduced the area of the Stage 7 Extraction Area in order to address a range of matters, including minimising disturbance of the *Melaleuca armillaris* vegetation community. As identified in Section 3.9 of Appendix 1 of the *Amendment Report*, the resulting reduced quarry life would be approximately 30 years.

Cleary Bros considered a further reduction in the area of the Stage 7 Extraction Area to exclude Stage 7e. This would, however, result in a further reduction in available hard rock resources of approximately 5.5Mt (see Table 3.3 of Appendix 1 of the *Amendment Report*). This option was not considered reasonable or feasible for the following reasons.

- The reduced resource would result in a commensurate reduction in the life of the amended Project by approximately 6 years. This would bring forward the point at which high quality extractive material could no longer be supplied from the amended Project Area, with the associated reduced competition and increased cost for such materials and resulting adverse community and economic impacts.
- There would be no benefit in excluding Stage 7e, particularly taking into consideration the Company's commitment not to commence that Stage until such time as the standard of rehabilitation on the benches of the visible parts of the western benches in Stage 7a satisfies the above criteria.

No other changes to the design of the extraction area are considered necessary.

-
- *Visual impact montages of the exposed quarry face and the assessment of the potential impact if rehabilitation was not successful, or partially successful.*

Response

Cleary Bros has committed to not commence Stage 7e unless the identified rehabilitation criteria for the western face of Stage 7a has been achieved. **Figure 7** presents a view of the amended Project Area from Site 5 with no bench revegetation and without expected natural recruitment (worst case scenario). In summary, limited views of the non-revegetated faces would be available. These views would be not dissimilar to views of the existing Holcim Albion Park Quarry. Views from other sites would be similar or less intrusive than those presented for Site 5.

-
- *Assessment of the permanent visual impact of landform changes and exposed quarry faces. The assessment should consider the impact of the ridgeline height reduction and shape change and the views from receivers with views of the landform change from low lying areas. The assessment should include visual montages and transects.*

Response

Section 8.2 and Figures 13 to 28 of the *Visual Impact Assessment* present an assessment of permanent visual impact of landform changes and exposed quarry faces from locations surrounding the amended Project Area, including visual montages and transects. Similar analysis from the location of the proposed new Shellharbour Hospital is presented in Section 4.2.7.7.



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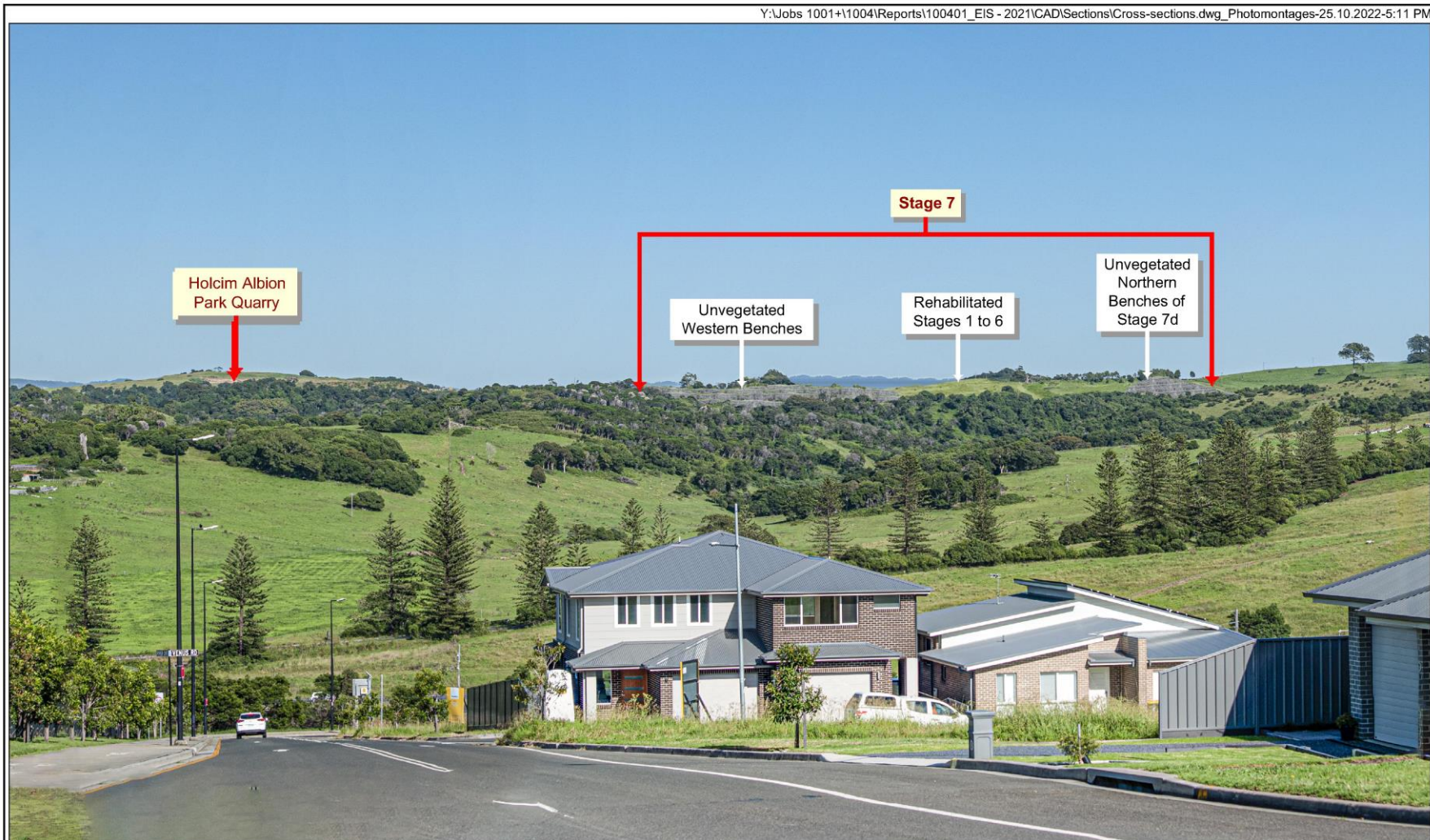


Figure 7
VIEW FROM SITE 5
END OF STAGE 7D -
NO BENCH REHABILITATION



Figures 8, 9 and 10 present an analysis of the ridgeline height reduction for Sites 2, 3 and 5 respectively. An analysis of the ridgeline height reduction from the location of the proposed new Shellharbour Hospital is presented in Section 4.2.7.7. The results for Sites 2, 3 and 5 may be summarised as follows.

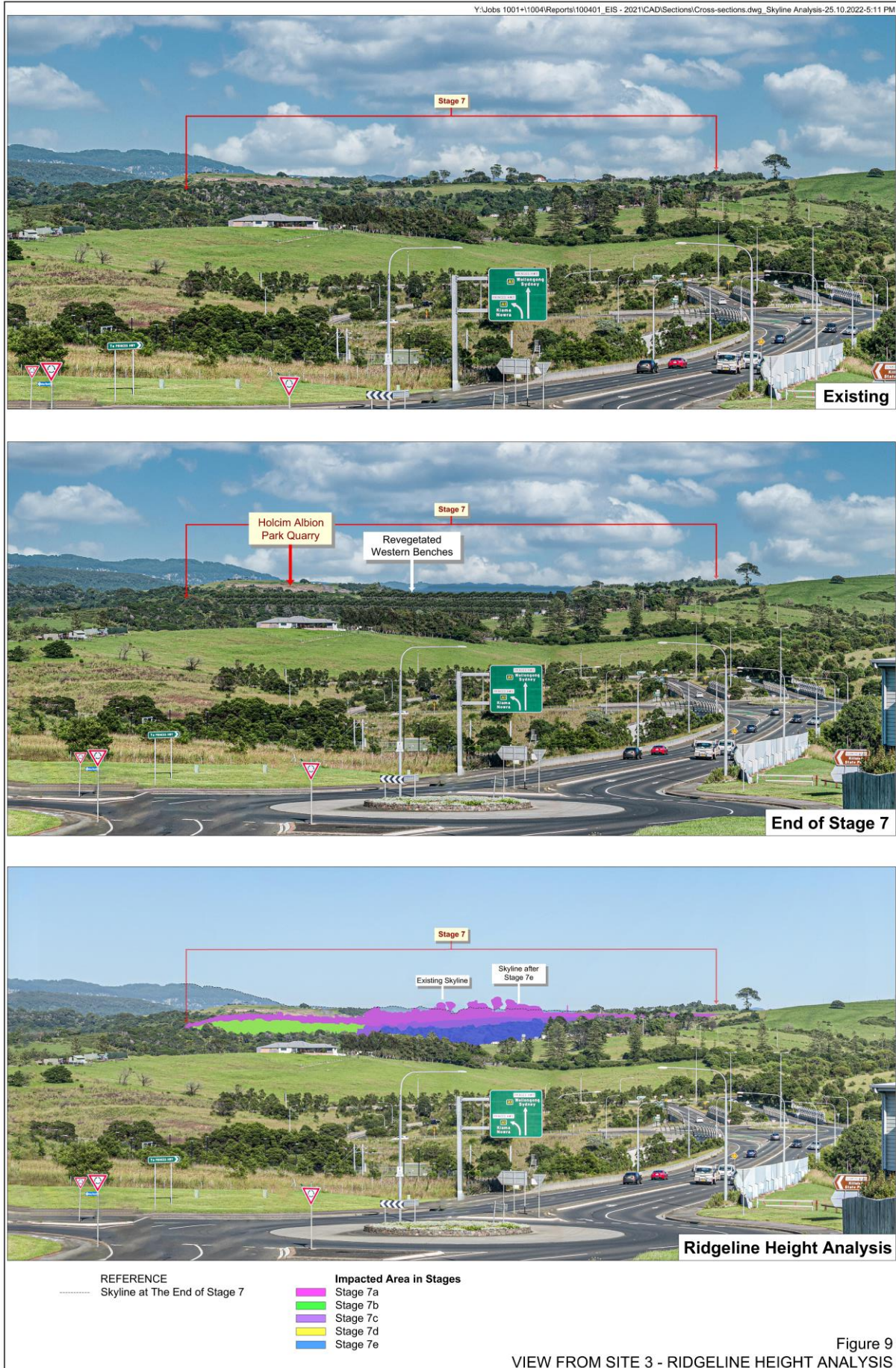
- Site 2 – the existing skyline from Site 2 in the direction of the amended Project Area is dominated by the Illawarra Escarpment, interrupted by occasional larger trees within the amended Project Area. During Stage 7a, these trees would be removed and there would be a greater area of the escarpment visible from Site 2. There would be no further impacts on the skyline visible from Site 2 throughout the life of the amended Project.
- Site 3 – the existing skyline from Site 3 is dominated to the south of the amended Project Area by the Illawarra Escarpment, with the Holcim Albion Park Quarry visible behind the amended Project Area. In the direction of the amended Project Area, vegetation within the amended Project Area in part obscures the Escarpment. During Stage 7a, the vegetation would be removed, and the Escarpment would become more prominent. There would be no further impacts on the skyline visible from Site 2 throughout the life of the amended Project.
- Site 5 – the existing skyline from Site 5 in the direction of the amended Project Area is dominated by the ridgeline within the amended Project Area. During Stage 7a, this land would be removed and the Illawarra Escarpment would become visible. There would be no further impacts on the skyline visible from Site 2 throughout the life of the amended Project.

It is noted that each of these sites have been selected to present the worst case with respect to the change in the skyline attributed to the proposed extraction. Views towards the amended Project Area from lower elevations would invariably result in the intermediate topography and vegetation eliminating or substantially reducing views of the amended Project Area compared with those shown for the higher elevations.



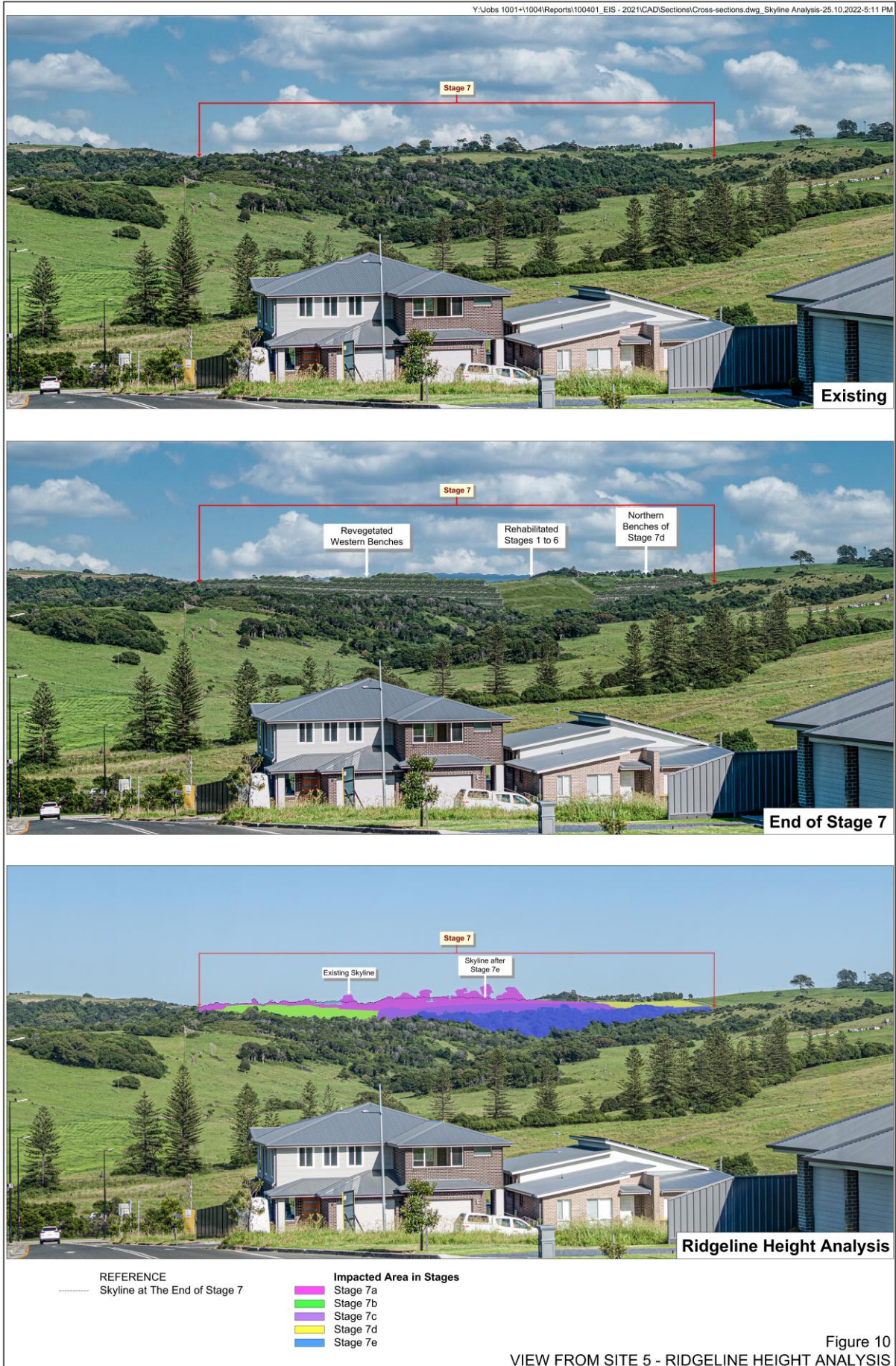
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- *Detailed assessment of the potential visual impact for road users that quantifies the visual impact of potential landform changes, exposed quarry faces, operational activities, and the final landform on road users travelling on the Princes Highway.*

Response

Figure 11 presents those areas that would, in the absence of intervening vegetation, have views of the final Stage 7e Extraction Area. In summary, the Princes Highway is located relatively low in the topographical setting and for most of the length of the road, the amended Project Area would not be visible.

Plates 8 to 11 present photographs taken from a vehicle travelling northwards along the Princes Highway to the east of the amended Project Area. Approximate photograph locations are presented in **Figure 11**.

- The roadside vegetation on the western side of the Princes Highway and adjacent to the Dunmore Sand and Soil sand quarry prevents any views of the amended Project Area (see **Plate 8**).
- Obscured views of the amended Project Area are available from selected locations along the Princes Motorway between the Dunmore Sand and Soil sand quarry and the Shellharbour Road Interchange (**Plates 9 to 11**). It is noted however, that the Extraction Area would unlikely be visible due to the low aspect from the highway. Vehicles are also travelling at 100km/h and any disturbance visible from the highway would be greater than a 45° angle to the driver's line of site and would be fleeting only.
- No views of the amended Project Area are available from the Highway north of the Shellharbour Road Interchange or south of Dunmore Sand and Soil sand quarry.

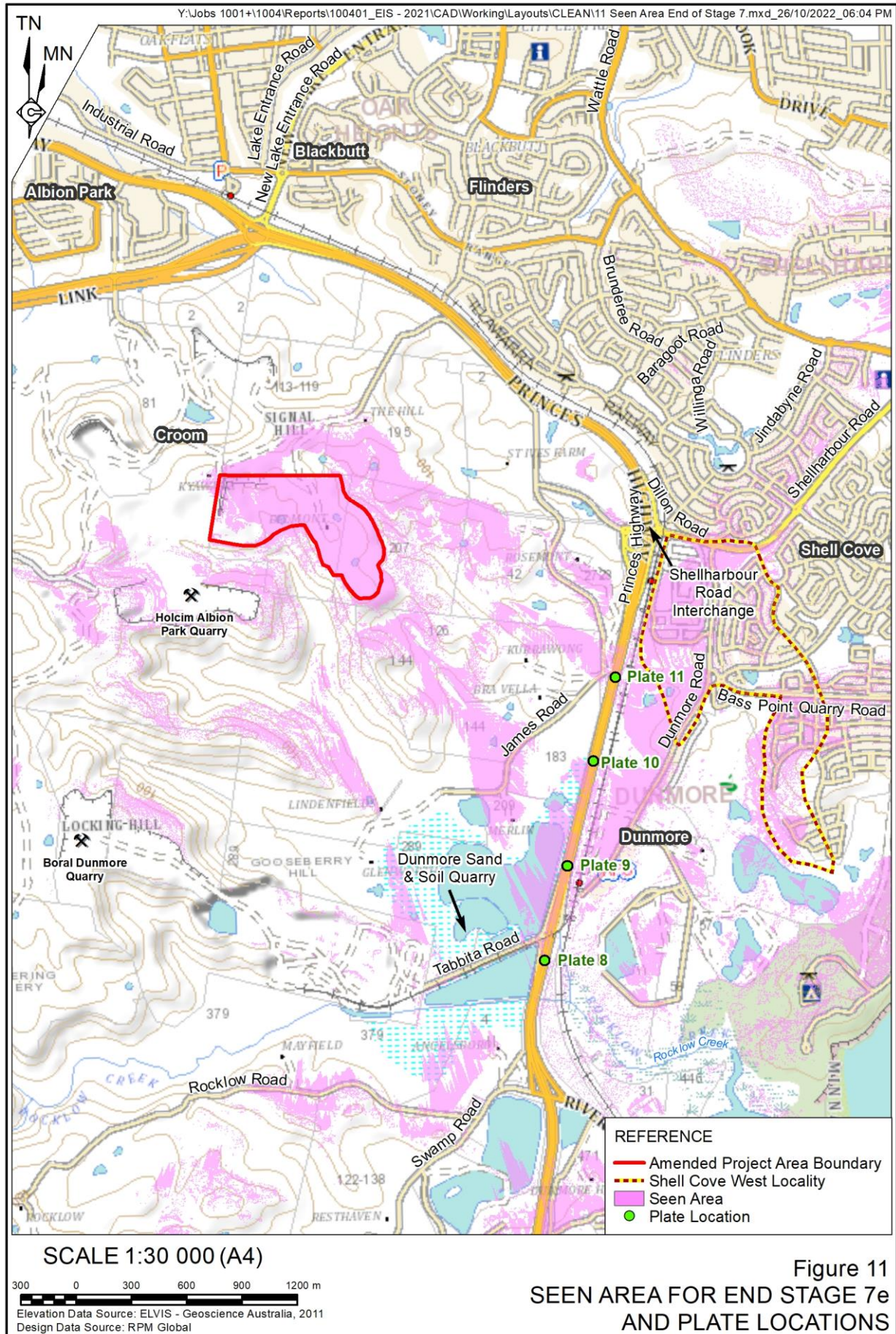
-
- *Assessment of regional views of the proposed extension*

Response

It is acknowledged that the Visual Impacts Assessment focussed on views from areas up to approximately 2km from the amended Project Area. An analysis of more distant vantage points has established that sections of the amended Project Area are visible from elevated areas within the Illawarra Escarpment approximately 7km to 10km to the south and southwest of the amended Project Area. At these distances, the activities within the amended Project Area would be barely discernible and there would be no changes in the skyline when viewed from these elevated areas.



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Plate 8: View towards the Amended Project Area from the Princes Highway (Source - Cleary Bros)

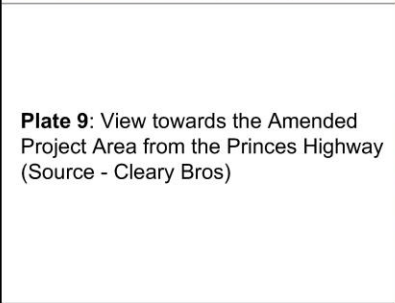


Plate 9: View towards the Amended Project Area from the Princes Highway (Source - Cleary Bros)



Plate 10: View towards the Amended Project Area from the Princes Highway (Source - Cleary Bros)



Plate 11: View towards the Amended Project Area from the Princes Highway (Source - Cleary Bros)





4.2.2.4 Landscape Character Impact

The EIS does not consider the potential impact of the proposal on the local and regional landscape character and whether the proposed mitigation measures are feasible and/or adequate.

The Department notes that the social impact assessment includes an assessment of the social impact of visual amenity changes for limited residences surrounding the proposed extension. However, additional visual impact assessment is required and pending the conclusions of the assessment, the social impact assessment may also need revision.

The Department requires a landscape character impact assessment. The assessment of landscape character is distinct from the visual impact of the exposed quarry faces and should consider the overall impact of the proposal on an area's character and sense of place.

The Transport for NSW 2020 Guideline for landscape character and visual impact assessment (EIA NO4) should be used as a guide for the methodology and assessment process.

Response

A *Landscape Character Impact Assessment* has been prepared and is presented as **Appendix 3**.

4.2.2.5 Blasting

The Blasting Impact Assessment details the potential impact for receivers R1, R2 and R3 and assumes no impact/compliance with the relevant criteria to other receivers based on the distance from the proposed quarry pit. The Department considers additional information is required to support this conclusion.

Additional Blast Impact Assessment Issues

- *Model and demonstrate ground vibration and airblast overpressure for all potential receivers surrounding the project area.*
- *Differing blast positions in a variety of proposed operational stages including different vertical positions within the pit and different locations distributed north to south length of the proposed pit.*
- *The influence of topography on airblast overpressure for receivers located to the south and south east of the proposed pit.*
- *Varying maximum instantaneous charge (MIC) that would apply to blasts in different locations to achieve compliance with the relevant criteria.*
- *How compliance with the relevant criteria would be demonstrated at all receivers during various operational stages of the proposed project.*
- *Confirm whether the negotiated agreement with the landowners of receivers R1, R2 and R3 allows for exceedances of the ground vibration and airblast overpressure criteria.*



Response

A response to the above issues has been prepared by Mr Dick Godson of SLR. Mr Godson's response is presented in full as **Appendix 4**.

4.2.3 Biodiversity, Conservation and Science Directorate

Cumulative impacts

A cumulative impact assessment on biodiversity has not been undertaken as required by the SEARs. This is particularly important given there are multiple local quarry operators who own land with similar biodiversity values in the area.

Response

An amended BDAR has been prepared and is presented as Appendix 4 of the *Amendment Report*. That report provides additional focus on potential cumulative impacts, including a specific section on cumulative impacts (Section 3.4).

Offset strategy

The offset strategy needs to contain further detail and commitment beyond the broad-level options provided.

Response

Cleary Bros has identified a potential Biodiversity Stewardship Agreement (BSA) Area to the south and east of the amended Stage 7 Extraction Area. Section 3.13 and Figure 12 of Appendix 1 of the *Amendment Report* provide additional detail in relation to the proposed biodiversity offset strategy and Sections 4.3 and 4.4 of the amended BDAR provide an assessment of the *Melaleuca armillaris* Tall Shrubland ecosystem credits potentially available within the proposed BSA. In summary, the proposed BSA is likely to contain sufficient credits to offset the anticipated credit requirements of the *Melaleuca armillaris* Tall Shrubland community for the amended Project.

Serious and Irreversible Impacts

Contrary to the BDAR, BCD is of the view that the proposal may result in serious and irreversible impacts (SAII) on to the Critically Endangered Melaleuca community. Given this, greater consideration should be given to its protection.

Response

Cleary Bros has engaged with Biodiversity, Conservation and Science Directorate in relation to the potential for serious and irreversible impacts to the *Melaleuca armillaris* Tall Shrubland and has, as a result, amended the boundary of the amended Project Area to address, to the extent practicable, the Directorate's concerns. In summary, this has included:

- reducing the area of the proposed Stage 7 Extraction Area to reduce disturbance of this community to 1.19ha, thereby limiting disturbance to areas of higher condition *Melaleuca armillaris* Tall Shrubland;

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- identifying a potential BSA Area on Cleary Bros property that would include approximately 3.43ha of this community; and
- identifying areas not currently mapped as this community that have the potential through active management to expand this community.

Currency of biodiversity assessment report

The BDAR has not been finalised and credit reports not generated within 14 days of the submission date. There are also sections in the BDAR that do not follow BAM 2020.

Recommended action:

- *Finalisation of BDAR must be within 14 days of submission date.*
- *Use BAM 2020*

Response

It is noted that the original BDAR was submitted within 14 days of submission of the EIS for high level review. However, the EIS was not formally submitted until some time later, outside the 14-day timeframe.

The amended BDAR will be submitted within 14 days of formal submission of the *Amendment Report* via the Planning portal.

Section 1.4.3 of the amended BDAR records that the assessment has been conducted using BAM 2020 and supporting documents.

Assessment of planted native vegetation

The BDAR does not follow the BAM 2020 for assessment of planted native vegetation proposed to be cleared within the subject site.

Recommended action:

- *Follow guidance in Appendix D of BAM 2020 to determine appropriate level of assessment for planted native vegetation.*

Response

The guidance within Appendix D of BAM 2020 has been followed to assess the planted native vegetation proposed to be cleared within the amended Project Area. Reference to this is provided within the Survey Overview within the Executive Summary and Sections 1.5.1 and 2.4 of the amended BDAR.

Justification for removal of two species credit species

The BDAR excludes two predicted species credit species (Green and Gold Bell Frog and Eastern Pygmy-possum) without survey or expert report.

Recommended action:

- *Further justification is required as per BAM 2020 (e.g.: section 5.2.3).*

**Response**

The text in Table 13 and Annex 6 of the amended BDAR provides further information of the typical habitat for the Green and Golden Bell Frog and the potential for impact.

The text within Table 13 of the amended BDAR with respect to the Eastern Pygmy Possum has been reviewed and slightly amended to more accurately refer to the on-site habitat being “degraded” rather than “no suitable habitat is present”.

Mitigation measures

Elements of BAM 2020 section 8.4 have not been addressed.

Recommended action:

- *Address all requirements in section 8.4 of BAM 2020*

Response

Section 1.5.1 of the amended BDAR records that Section 8.4 of the BAM 2020 needs to be applied. The guidelines for mitigating and managing impacts have been followed within the amended BDAR. The text within Section 3.2.2 of the amended BDAR has been expanded significantly and incorporates a new table which provides details of the mitigation measures both pre-construction and during quarry operations.

Additional mitigation measures

Additional mitigation measures have been identified for consideration.

Recommended action:

- *Consider additional mitigation measures for inclusion into BDAR*

Response

The text within Section 3.2.2 of the amended BDAR has been expanded significantly and incorporates a new table which provides details of the mitigation measures both pre-construction and during quarry operations.

Assessment of Serious and Irreversible Impact (SAII)

The BDAR does not address requirements of section 9.1.1 of the BAM 2020.

Recommended action:

- *Address all requirements in section 9.1.1 of BAM 2020*

Response

All requirements of section 9.1.1 of BAM 2020 have been addressed within the amended BDAR (see Section 3.3 and Annex 9 of that document).



Melaleuca shrubland is critically endangered ecological community

The BDAR needs to consistently identify Melaleuca shrubland as “critically endangered ecological community”.

Recommended action:

- *Update BDAR accordingly.*

Response

The references to Melaleuca shrubland community have been consistently identified throughout the amended BDAR as critically endangered.

4.2.4 DPE Hazards

We recommend the following conditions be included in the consent to ensure that the SSD will not be potentially hazardous if approval is granted.

- 1. The Applicant must ensure that the quantities of dangerous goods within the development or transported to and from the development does not exceed the screening threshold quantities in the Department’s Applying SEPP 33 at all times.*
- 2. The Applicant must store all chemicals, fuels and oils used on-site in accordance with:*
 - a) the requirements of all relevant Australian Standards; and*
 - b) the NSW EPA’s Storing and Handling of Liquids: Environmental Protection – Participants Handbook if the chemicals are liquids.*

In the event of an inconsistency between the requirements listed from (a) to (b) above, the most stringent requirement shall prevail to the extent of the inconsistency.

Response

Cleary Bros would accept the recommend conditions should the amended Project be approved.

4.2.5 DPE Water

4.2.5.1 Water Take

1.1 Recommendation – Prior to Determination

The proponent needs to demonstrate sufficient entitlements can be obtained.

Explanation

The proponent is yet to demonstrate the ability to acquire a water entitlement to account for potential water take from the Illawarra Rivers water source. Whilst there is sufficient entitlement available in this water source there are limited licences available and limited evidence of active trading. This needs to be addressed to mitigate a potential risk to the project.



The department advises there is no option to use a net water balance to reduce the groundwater take requirement as proposed by the proponent. As such, 68ML of entitlement would be required in the Sydney Basin South Groundwater Source and 2ML would be required from the Minnamurra River Management Zone of the Illawarra Rivers Water Source.

Response

Cleary Bros understands that the following water entitlements will be required for the amended Project. The following also presents an overview of the status of actions to obtain those licences or exemptions that apply.

Harvestable Rights and Excluded Works

Cleary Bros is relying on its harvestable right under the *Water Management Act 2000* (WM Act) and excluded works provisions of the *Water Management (General) Regulation 2018* (WM Reg) for the following water storages.

- Storage Dam (Figure 1.3 of the EIS).
As identified in Section 4.3.1 of SEEC (2021) (Part 7 of the SCSC), Cleary Bros' harvestable right¹ under Section 53 of the WM Act, based on a landholding of 142.74ML, is 18.56ML. The Storage Dam has a capacity of approximately 18ML and other farm dams within the Cleary Bros property have a capacity substantially less than 0.56ML. As a result, the Storage Dam and use of water does not require a licence under the WM Act.
- Excluded works, namely internal sumps and sediment control structures.
As identified in Section 4.3.1 of SEEC (2021) (Part 7 of the SCSC), excluded works, including sumps within the existing and proposed Extraction Areas, do not require a licence for the water storages or use of water that accumulates within those sediment control structures.

As described in Section 3.12.6.2 of Appendix 1 of the *Amendment Report*, the final landform would include two minor dams, namely the Western Sump and the Southern Sump. Following completion of rehabilitation operations and approval of the relevant regulators that the final landform is suitably stabilised to permit off-site discharge, the Western Sump would passively overflow via a stabilised spillway into Watercourse 1 and the Southern Sump would passively discharge via a low flow pipe into Watercourse 3. Cleary Bros would ensure that the combined volume of all water storages on the property is less than the Harvestable Right.

Groundwater Entitlement

Section 6.10.5.4 of the EIS identified that Cleary Bros would require licences for 66ML from the Sydney Basin South Groundwater Source. Cleary Bros has an existing Water Access Licence WAL41971 which provides 15-unit shares within the Sydney Basin South Groundwater Source. Cleary Bros has recently secured two additional allocations (reference numbers 10AL124700 and 10AL124699) for a total of 110 unit shares within the Sydney Basin South Groundwater Source under the Controlled Allocation Order 2021. These additional allocations are currently being processed by the NSW Land Registry Services for inclusion on the NSW Water Register, and are expected to be available for use by the end of November 2022.

¹ Based on the right to harvest 10% of rainfall runoff.

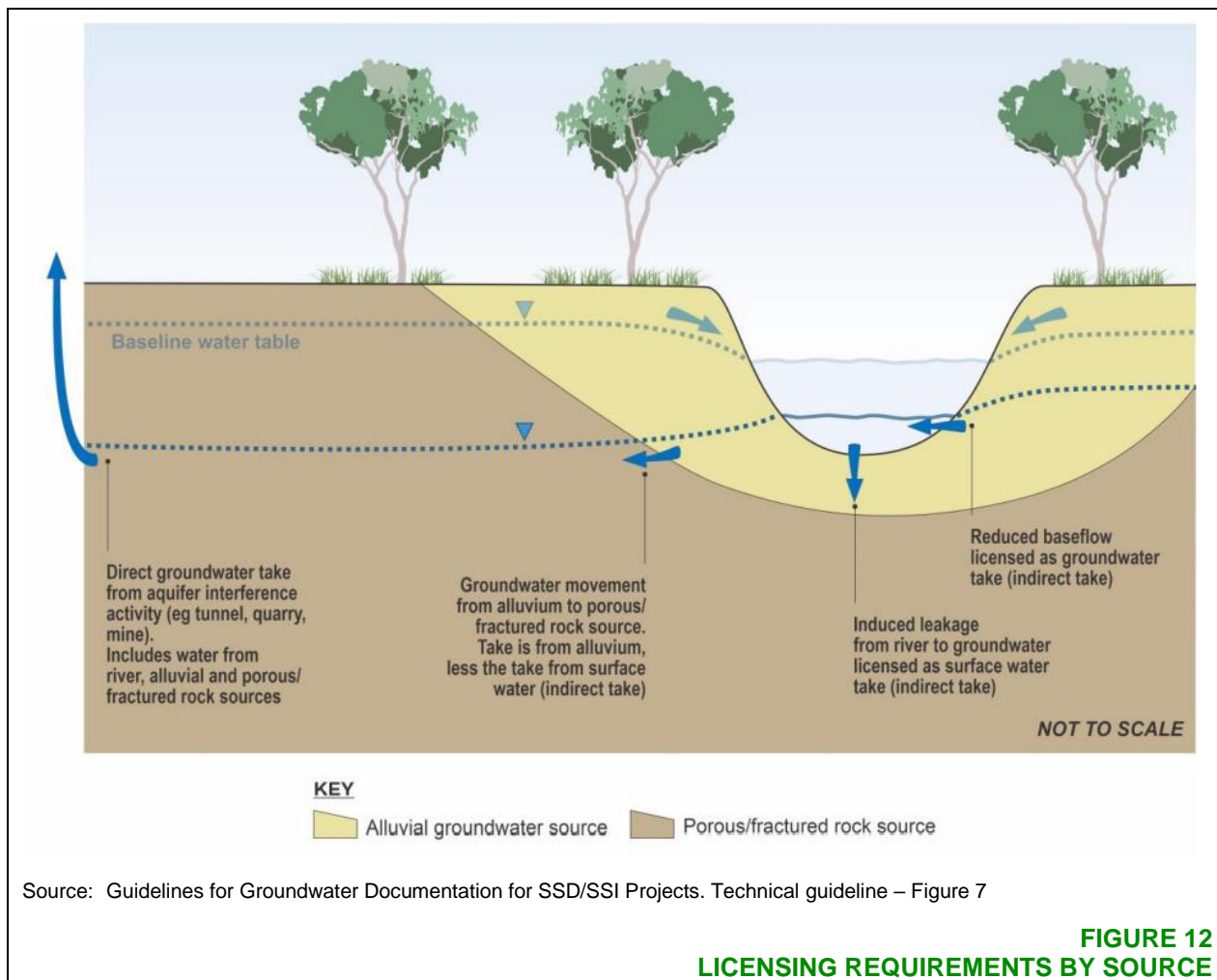
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Section 6.10.5.4 of the EIS identified that Cleary Bros would also require a further annual surface water entitlement of 2 units (equivalent to 2 ML on a 100% allocation) from the Minnamurra River Management Zone of the Illawarra Rivers Water Source of the *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011* to account for anticipated watercourse baseflow reductions (maximum <5kL/day) associated with the amended Project. Subsequent to finalisation of the EIS, the *Guidelines for Groundwater Documentation for SSD/SSI Projects* were reviewed, and this statement was determined to be incorrect. In summary,

- Section 5.3 of the *Groundwater Assessment* that accompanied the EIS states the following.

Groundwater level drawdown has potential to reduce baseflows to watercourses in the vicinity of the amended Project Area. This could occur due to the amended Project intercepting groundwater that would otherwise discharge to watercourses. Modelled baseflow reductions to watercourses in the vicinity of the amended Project Area is shown in Figure 5.3 and ranges from less than 1kL/d [0.36ML/y] in early years of the amended Project before steadily increasing to peak of less than 5kL/d [1.8ML/y].

- Figure 7 of the *Guidelines for Groundwater Documentation for SSD/SSI Projects* (**Figure 12**) identifies that reduced baseflow resulting from reduced groundwater discharge would be licenced as a groundwater take. Conversely, induced leakage from a watercourse into groundwater would be licenced as a surface water take.
- Section 5.2 of the *Groundwater Assessment* identifies that the 2m groundwater drawdown contour is expected to extend between 50m and 250m from the Extraction Area and approximately 150m from the Stage 7 Extraction Area.
- Figure 6.9.2 of the EIS identifies that the only watercourses within 250m of the Extraction Area are 1st and 2nd order streams. Cleary Bros state that these watercourses are ephemeral and flow for a brief period only following rainfall. As a result, these streams are unlikely to be losing streams and the amended Project would be unlikely to significantly increase leakage from the watercourses to groundwater.
- As a result, Cleary Bros contend that the identified 2ML/y reduction in baseflow should be licenced as a groundwater take, not a surface water take.



In light of the above, Cleary Bros contend that the identified reduction in base flow of up to 2ML per year would require licencing as a groundwater take, not a surface water take. As a result, the amended Project would require a further 2ML allocation under the Sydney Basin South Groundwater Source, for a total allocation of 68ML. Cleary Bros holds adequate licences (or will shortly do so once registration is confirmed with NSW Land Registry Services) to cover this requirement.

Recommendation – Prior to Determination

The proponent provides a consolidated water balance for the project that clearly identifies the volumes and sources of water inputs and proposed demands.

Explanation

The project documentation notes water requirements are 110ML, but it is unclear what this is required for and where it will be sourced from. The water balance should include groundwater inflows, surface water inflows and site water demands.



Response

Water inflows and water uses/losses for the original Project are presented in Sections 6.9.3.3 and Section 6.10.5.1 of the EIS. **Table 3** presents a consolidated water balance for the amended Project based on median annual rainfall and the revised Extraction Area design. In summary, the existing Quarry has an average surplus of approximately 119ML per year. Under the amended Project, this water surplus would increase to approximately 293ML per year. It is noted, however, that these estimates are expected to overestimate the actual water surplus because losses associated with evaporation of groundwater seepage from the faces of the Extraction Area have not been taken into account.

During operation of the amended Project, surplus water would be discharged from site in accordance with the conditional requirements of EPL299. Following completion of extraction operations and rehabilitation of the amended Extraction Area, surplus water would be passively discharged as described above.

Recommendation – Post Determination

The Water Management Plan defines the process to measure and report on annual water take against licences held, and a commitment to account for any post-quarry life water take.

Explanation

The EIS does not inform on a process to measure annual take of groundwater or surface water (exempt and licensed) and if this will be reported in the annual review. There is also no reference to how to account for groundwater take post quarry life activities. These commitments should be addressed in a Water Management Plan.

Response

Cleary Bros would accept a condition of consent consistent with the above.

4.2.5.2 Waterfront Land

Recommendation – Prior to Determination

A review is requested of the works on waterfront land to show due consideration to the setback requirements in the Guidelines for Controlled Activities on Waterfront Land.

Explanation

Works are proposed within waterfront land of a second order watercourse on Lot 3709. These works need to be considered for setback requirements in accordance with the Guidelines for Controlled Activities on Waterfront Land. A 20m setback measure from top of bank should be provided for each side of the watercourse.



Table 3
Consolidated Annual Water Balance – Average Rainfall Conditions

End Stage	Incremental Catchment Area (ha)	Water Inflows							Water Uses/Losses		Dust Suppression (ML/y) ⁶	Total	Water Surplus / (Deficit) (ML/y) ⁷
		Cumulative Catchment Area (ha)	Surface Water			Groundwater		Total	Evaporation from Sumps				
			Assumed Annual Rainfall (mm) ¹	Run off Coefficient ²	Average Annual Runoff (ML/y)	Daily inflow (kL/d) ³	Annual Inflow (ML/y) ⁴		Area (ha)	Annual Loss (ML/y) ⁵			
Stages 1 to 6	15.9	15.9	1063	0.7	118	38	14	132	0.32	3.4	9.6	13.0	119
Stage 7a	6.9	22.8	1063	0.7	170	125	46	215	0.32	3.4	9.6	13.0	202
Stage 7b	0.8	23.6	1063	0.7	176	134	49	225	0.4	4.7	17.1	21.8	203
Stage 7c	2.8	26.4	1063	0.7	196	149	54	251	0.63	7.4	9.6	17.0	234
Stage 7d	2.5	28.9	1063	0.7	215			283	0.73	8.2	7.0	15.2	268
Stage 7e	3.3	32.2	1063	0.7	240	187	68	308	0.73	8.2	7.0	15.2	293
Post closure		32.2	1063	0.4	137	185	68	204	0.2	2.1	0.0	2.1	202

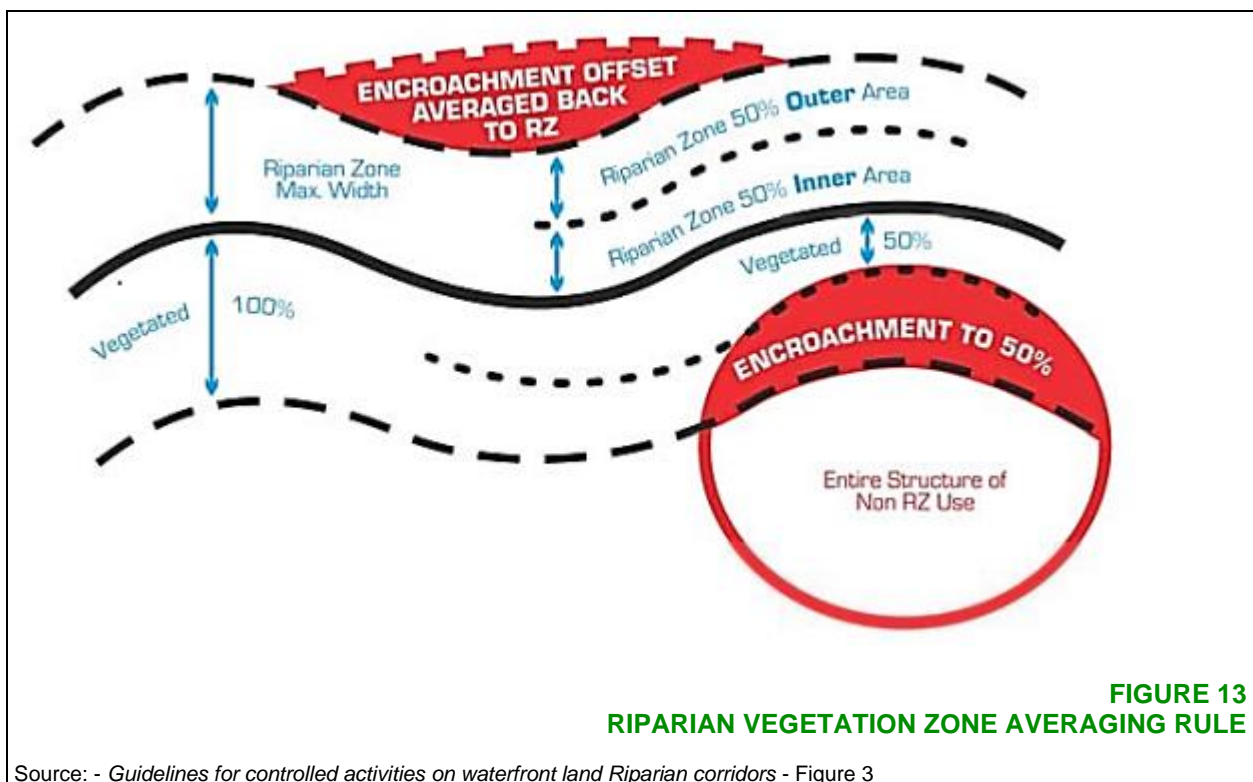
Note 1: Source - SEEC (2021) - After Table 3
 Note 2: Source - SEEC (2021) - After Tables 37 and 38
 Note 3: Source - Jacobs (2021) - After Table 15
 Note 4: Actual volume collecting in sumps likely to be less as much of this would evaporate from quarry faces
 Note 5: Source - SEEC (2021) - After Table 38
 Note 6: Source - SEEC (2021) - After Table 39
 Note 7: Stages 1 to 7e - To be pumped from site following settlement of fines. Post closure - to be passively discharged



Response

The *Guidelines for Controlled Activities on Waterfront Land* describe a minimum Riparian Vegetation Zone (RVZ) from the top of bank of the watercourse of 10m from a 1st Order watercourse and 20m from a 2nd Order watercourse. This RVZ consists of an inner zone comprising 50% of the RVZ which must be maintained as a vegetated buffer, and the remaining outer zone which can include some development subject to the “averaging rule”. The averaging rule allows for encroachment into the outer zone provided an equivalent offset area is added to the RVZ elsewhere within the development site, as shown in **Figure 13**.

The Project will encroach into the outer zone along the length of Watercourse 6 that adjoins the amended Extraction Area. Utilising the averaging rule, an equivalent area would be offset along the eastern bank of the watercourse to maintain the total area of the RVZ on the property. Prior to the commencement of any ground disturbance activities in the Stage 7e area (which is the area adjoining Watercourse 6), the top bank of the watercourse will be identified by ground survey, and the distance equivalent to the inner riparian zone (5m for the section of 1st order watercourse and 10m for the section of 2nd order watercourse) would be permanently marked, and would form the disturbance limit in this area of the amended Project. This will ensure no intrusion into the inner riparian zone.



Recommendations – Post Determination

Works on waterfront land should be in accordance with the Guidelines for Controlled Activities on Waterfront Land.

Response

Noted.



4.2.5.3 Groundwater Monitoring and Management

3.1 Recommendation – Post Determination

A water census of the neighbour's bore (GW100090) located in proximity to the southern boundary be undertaken and a performance target be made transparent for 'if and when' the 'make good' provision would apply.

Explanation

A commitment to the provision of 'make good' is stated for a neighbour's water supply bore if impacted, albeit not predicted to occur from the groundwater model. However, a water census of the bore water yield and a performance target has not made transparent to when 'make good' would apply. This could be addressed in a Water Management Plan and include baseline data to measure change.

Response

Cleary Bros has been advised by the owner of GW100090 that they were unaware of the location or condition of the bore. Permission was obtained to search for the bore and carry out baseline monitoring. An attempt to locate the bore was undertaken on 16 September 2022, with a detailed search using a handheld GPS. The search failed to locate the bore.

The registered location of the bore is located near the base of a steep slope, with evidence of sheet wash and deposition of sediment. The bore is presumed to have been filled with sediment and is no longer functional.

Recommendation – Post Determination

A water census of the neighbour's spring fed dams along the northern boundary be undertaken and a monitoring strategy be incorporated within the Water Management Plan. This is to include a 'make good' commitment if the water security changes due to the quarry impacts.

Explanation

There are several spring fed dams on the neighbour's property along the northern boundary. The proponent asserts these dams are sustained by the surficial aquifer and the quarry intercepts deeper regional groundwater systems, suggesting the dams are unlikely to be impacted.

However, monitoring data and topographic features inform a risk of impact. The topographic contours identify the spring fed dams are a little under 100m AHD and that the closest monitoring bores MW4 and MW8 have screen depths at similar AHD elevations as the spring dams and with long term water levels higher than the spring dams. Thus there is potential to alter groundwater flow and discharge volumes towards these dams.

The dams are relatively small and likely to be within the property's harvestable rights limit, meaning there are no registered work approvals issued but a water right exists nonetheless. A 'make good' provision should be extended to the loss in water security of these dams if impacted. A water census and ongoing assessment of potential impact to the dams would be required and should be addressed in a Water Management Plan.



Response

Cleary Bros would commit to provide water for stock purposes should the dams in question ever run dry.

4.2.6 Environment Protection Authority

The Environment Protection Authority provided a range of recommended conditions of consent. Cleary Bros would accept the recommended conditions should the amended Project be approved. In particular, Cleary Bros notes and accepts the requirement for a Noise Verification Program to be undertaken over a 12-month period commencing following the completion of construction operation, specifically including installation the proposed amenity barriers,

Cleary Bros confirms that the Lot/DP and address details provided in the table associated with recommended Condition L4.1 are accurate and that it would accept the nominated noise limits.

4.2.7 Shellharbour City Council

4.2.7.1 Noise and Blasting

The updated Noise and Blast Management Plan is required to be included in the EIS to ensure that full assessment can be undertaken as part of the determination process.

Response

Cleary Bros notes that preparation of Management Plans for State Significant Development is typically a post-approval conditional requirement of any development consent issued. It is anticipated that consultation with Shellharbour City Council would be a requirement for the preparation of the *Noise and Blast Management Plan* required for Stage 7.

4.2.7.2 Air Quality

EPL-299: condition M2.2 – Air monitoring requirements requires sampling to be taken on a monthly basis. Maintaining this is suggested in Chapter 6.2.3.2 – Air Quality Environment of the EIS.

Given the growth in housing in the surrounds and expansion of the quarry, it is suggested that the frequency of sampling be increased to weekly sampling.

Dust gauge locations are show within the EIS – Chapter 6.2. An additional dust gauge is also considered justifiable on the eastern side of Stage 7 to measure potential dust spread during winter when dryer south-westerly winds are more prevalent, which may blow dust into residential area of Flinders.

Air Quality Management Plan is to be updated as part of the proposal and not as condition of consent as suggested to allow complete assessment and review to be completed.



Response

Condition M2.2 of EPL299 requires monitoring of deposited dust at four locations surrounding the amended Project Area (see Figure 6.2.1 of the EIS) in accordance with Australian Standard AS3580.10.1-2003. As deposited dust monitoring is intended to record deposited dust levels on a monthly basis, reducing the frequency of monitoring would be contrary to the intent of the monitoring program and inconsistent with Australian Standard AS3580.10.1-2003, which specifies 30 \pm 2 days.

Cleary Bros agrees that there would be benefit in an additional deposited dust gauge located to the east of the Stage 7 Extraction Area. The location of the additional gauge would be identified in the *Air Quality Management Plan* to be prepared following the receipt of development consent, should it be granted.

Finally, as stated above, Cleary Bros notes that preparation of Management Plans for State Significant Development is typically a post-approval conditional requirement of any development consent issued. It is anticipated that consultation with Shellharbour City Council will be a requirement for the preparation of the *Air Quality Management Plan* required for Stage 7.

4.2.7.3 Stormwater Discharge

The submitted information states that

“Mitigation measures would be used to ensure no pollution of surface water resources beyond the Project Area”.

No details of the mitigation measures have been provided as part of the EIS and need to be included for assessment. The site forms part of Minnamurra River catchment and stormwater discharges from site is required to be treated to level that protects or enhances water quality of the river.

The quarry acts as a large dam with peak rainfalls likely to result in peak sedimentation and discharges of water, hence adequacy of treatment measures is critical and questioned.

Table 3.4 identifies ‘rare’ use of dewatering pump during peak rainfall periods (including 2022 events) but no information is provided regarding where this water is discharged to or how it is treated. Details of treatment measures and where water is discharged to is required as part of the updated Water Management Plan.

The submitted information provided the water quality monitoring data for Dec 2020 for WC1 and WC2. Water quality monitoring is to be carried out biannually and therefore Council request the biannual data to ensure that the water quality had not been deteriorated since 2009.

Water discharged from the quarry to creek needs to fulfil the triggering values of different water quality parameters as per the water quality guidelines prepared by the Australian and New Zealand Environment and Conservation Council (ANZECC) & Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ).



Response

Section 6.9.4 of the EIS presents surface water-related management and mitigation measures. In summary, that section commits to the following.

- Collecting all surface water runoff from disturbed sections of the amended Project Area within in-pit sumps.
- Using accumulated water for operational purposes.
- Discharging water from site only after testing demonstrates compliance with the water quality requirements of EPL299.
- Stabilising the outlets of all discharge points to prevent scouring.

In relation to discharge of water during peak rainfall events during operations, all surface water from disturbed sections of the amended Project Area is currently and would continue to be retained within the existing or proposed Extraction Area as the extraction area is significantly below the surrounding ground level. The available volume of the extraction area is such that there is and would continue to be no unplanned discharge of water and all discharged water would comply with the requirements of EPL299. As a result, Cleary Bros contends that existing and proposed treatment measures are adequate to ensure protection of water quality in the Minnamurra River catchment.

In relation to discharge of water following the completion of extraction operations, Cleary Bros proposes to establish a stabilised spillway from the Western Sump and a low flow pipe from the Southern Sump to permit passive discharge of water from the rehabilitated Extraction Area. Discharge of water would only occur once rehabilitation operations have sufficiently stabilised the final landform to ensure the quality of water to be discharged is acceptable without further treatment.

Section 6.9.4 of the EIS identifies that water would be discharged from the amended Project Area in accordance with EPL299. Relevantly, EPL299 permits discharge from the licenced discharge point 6, shown as the “Quarry Discharge Point” on Figure 6.9.2 of the EIS. As identified in Section 6.9.4 of the EIS, the current pumping infrastructure typically releases up to 9ML of treated and tested water per day to the Rocklow Creek catchment during discharge operations. The actual point of discharge would vary over time, dependent on the location of the sump at the base of the extraction area.

Water quality monitoring results for samples collected from monitoring locations WC1 and WC2 between February 2009 and December 2020 are presented in Table 28 of SEEC (2021), including the minimum, median and maximum values for conductivity, pH, temperature, turbidity, total suspended solids and total dissolved solids. Additional trend analyses of water quality data from these watercourses is included with the Annual Reviews completed for the existing quarry, which are available on Cleary Bros’ website (<http://www.clearybros.com.au/albion-park>).

Finally, Cleary Bros notes that water would continue to be discharged from the amended Project Area during operations only after testing confirms that the quality of the water to be discharged satisfies the requirements of EPL299. As a result, the trigger values identified in the ANZECC (2000) water quality guidelines are not relevant to the amended Project.



4.2.7.4 Biodiversity

Zieria granulata

The proposal will impact 2172 individuals of Zieria granulata (Illawarra Zieria) (more specifically, 4521 individuals but only 2172 were considered mature). 4344 credits are required to offset these impacts. The BDAR justifies the use of recording mature plants for offsetting only. This may have resulted in a miscalculation of the total number of plants to be impacted. Offsets are calculated off 2172 mature plants, as opposed to the 4521 total plants recorded. The 2005 Z. granulata recovery plan stated that it was estimated there were only 8000 mature individuals at the time. The count at the Subject Land is therefore a considerable portion of the total known population.

The vast majority of Z. granulata plants occur on freehold land that is zoned for extractive industry or rural land uses. The conservation of Z. granulata populations within these areas is highly important for the conservation of the species as a whole. 73% of plants are situated on private land. This demonstrates the need to protect Z. granulata populations on private land in order to conserve the species. The Subject Land may contain one of the largest populations of the species within a single landholding.

Z. granulata suffer from low levels of genetic diversity. The removal of a large portion of a population could have a downstream effect on surrounding populations/communities. Species in fragmented communities are more likely to experience reduced gene flow, when compared with populations inhabiting intact communities, and therefore, may be more likely to produce non-viable seed.

Seed set is highly variable for Z. granulata; if the population at the Albion Park Quarry Site is readily setting seed and successfully reproducing (as may be indicated by the high number of immature plants) this would suggest this population is in good condition and may be an important population for the species.

Concerns exist regarding the offset ability for Z. granulata. It is currently understood that the BCT is already looking to source 2940 credits via their credit offer portal. The addition of another 4344 credits to be sourced will result in 7284 credits required for the species. It is a real risk that these credits may never be created. It is requested that the proponent either:

- *Establishes a Stewardship Site within their land to provide at least some of the required credits*
- *Facilitates the establishment of a Stewardship Site elsewhere that contains Z. granulata.*

The method of paying to the Biodiversity Conservation Fund is concerning as there is no way to be confident that any credits for Z. granulata will be generated. Unless the BCT can provide evidence that real credits are available, the two above options are recommended. The staging of the proposal allows for suitable lead time to ensure credits exist and this evidence should be made clear prior to impacts occurring.



Response

Cleary Bros acknowledges Council's concerns in relation to impacts to and management of *Z. granulata* and notes the following.

- The boundary of the original Extraction Area presented in the EIS was adjusted to avoid an area of high quality *Z. granulata* in the southwestern section of the original Project Area.
- The Stage 7 Extraction Area has been further amended (see Section 3.4 of the *Amendment Report*) to avoid *Z. granulata*, reducing:
 - habitat disturbance from 3.01ha to 1.33ha,
 - disturbance of mature individuals from 2,170 to 1,037; and
 - the number of species credits required to be retired from 4,344 to 2,074.
- Cleary Bros has identified a potential Biodiversity Stewardship Agreement Area within Cleary Bros' land to the south and east of the Stage 7 Extraction Area (see Section 3.13 of Appendix 1 of the *Amendment Report*).
- An amended BDAR has been prepared (see Appendix 4 of the *Amendment Report*) addressing the amended impacts to *Z. granulata*.

In light of the above, Cleary Bros contends that Council's concerns have been adequately addressed.

Avoidance Comments

The location of the Cynanchum elegans is at the southern extent of the proposed works. It appears that this individual could be retained should the impact area be adjusted at its southern extent by approximately 10m. The Cynanchum elegans is also sited alongside numerous Zieria granulata which would also be retained should the project boundary be moved less than 10m north.

Consideration of reducing the southern extraction boundary should be undertaken. If it is not possible to reduce the impact in this area, justification must be provided.

Given the regional significance of the Melaleuca armillaris Shrubland (MAS) EEC in the Illawarra area, and the ongoing pressures associated with fragmentation and deterioration of condition, far greater weight should be placed on the value of this vegetation community and its retainment, rehabilitation and restoration. The proposal in its current form will remove about 2% (2.92 ha) of the total remaining extent of MAS within the surrounding 10,000 ha circle. This is a considerable area. Only 8 ha is currently under protection. MAS is limited in its remaining distribution.

Response

As identified in Section 4.2.3, Cleary Bros has amended the southern boundary of the amended Extraction Area to avoid the following impacts.

- Disturbance of the identified *Cynanchum elegans* individual.
- Disturbance of approximately 1.7ha of *Melaleuca armillaris* Tall Shrubland.
- Disturbance of approximately 1.7ha of habitat for and 1,133 individuals of *Z. granulata*.



*DPiE is pressed to strongly consider the risk for a Serious and Irreversible Impact (SAII) to MAS. Any additional and appropriate measures that will minimise the impact should be considered. Potential avoidance of the mapped high condition MAS should be revisited. This area also contains *Z. granulata* and the *Cynamchum elegans* further highlighting the need to consider reducing the southern extraction boundary.*

Response

Determination in relation to Serious and Irreversible Impacts to listed species and communities is a matter for the Biodiversity, Conservation and Science Directorate. This matter has been addressed in Section 4.2.3.

General Comments

The proposal is not in accordance with the objectives of the SCC LEP 2013 Clause 6.5 Environmentally Sensitive Land or the E2 Zoning Clause 2.8.

Response

Clause 6.5 of the *Shellharbour Local Environment Plan 2013* (Shellharbour LEP) is addressed in Table B.1 of Appendix B of the EIS.

The objectives of Zone C2 – Environmental Conservation are:

- *“To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values.*
- *To prevent development that could destroy, damage or otherwise have an adverse effect on those values.”*

Section 4.3.2 of the EIS identifies these objectives and states that they have been addressed throughout the EIS. Notwithstanding this, Cleary Bros notes that the section of the amended Project Area within this Zone does not contain high ecological, scientific, cultural or aesthetic values, and as such the amended Project is not inconsistent with these objectives.

*The Biodiversity Management Plan (BMP) should include a Translocation Plan, monitoring program and identify any research opportunities, with a specific focus on *Z. granulata*. Although translocation is not considered the best method of conservation, it may be necessary when ‘all other management options are deemed inappropriate or have failed’. There has been some translocation success recorded in *Zieria prostrata*, where sites had a 10-50% survival rate. Seed heads are to be collected where appropriate as an additional ex-situ conservation measure.*

*All revegetation must utilise species associated with the two TECs being impacted and be implemented in accordance with a VMP which provides details of suitable species. Measures must be implemented including propagation of *Zieria granulata* as well as translocation to areas within the quarry’s retained vegetation.*

Preparation and implementation of a [B]MP for areas adjacent to the impact zone is considered suitable to protect retained vegetation. The VMP must be approved by Council prior to construction works commencing.

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Installation of nest boxes must occur at a ratio of 2 to 1. A nest box monitoring plan should be implemented for the life of the expansion works.

Response

Cleary Bros anticipates that each of the above matters would be addressed within the Biodiversity Management Plan required to be prepared following granting of development consent. It is anticipated that consultation with Shellharbour City Council would be a requirement for the preparation of the Biodiversity Management Plan required for Stage 7. Cleary Bros would consider Council's comments in preparing the required Plan, noting that the Secretary would be responsible for approving the Plan.

4.2.7.5 Flooding

Council does not have flood information for this site. The submitted information has shown that the peak flows in different sub-catchments (Cat A to Cat J) and locations (Loc 1 to Loc 10) will be decreased due to the proposed quarry extension work.

Council require access to the model and/or data showing all calculations related to flow for the existing scenario and proposed scenario.

Response

Sections 3.4 and 4.2.1 of SEEC (2021) present the existing and anticipated flows in catchments within and surrounding the amended Project Area estimated using the Rational Method. The model used to generate that data has been provided separately to Council.

4.2.7.6 Heritage**Aboriginal Heritage**

The submitted Aboriginal Cultural Heritage Assessment report does not recommend obtaining an Aboriginal Heritage Impact Permit (AHIP). This is questioned given the extent of additional clearing that and excavation for Stage 7.

In terms of the engagement, it is important to ensure that Aboriginal community organisations have been involved. None have been identified in the community engagement stakeholders list. Council has noted that Illawarra Local Aboriginal Land Council (ILALC) did not respond or provide any feedback for this proposed expansion. ILALC are under new leadership and, Council considers it pertinent for the applicant to reach out for consultation again.

Noted that the site was identified to have a high level of cultural value and a moderate level of aesthetic value. Expansion of nearby mining operations has raised objections from the local Aboriginal community in limiting the expansion of mining in this area due to the impact it has on the cultural value of the site and surrounding region. Council requires information on the potential impact this mining has on the Minnamurra River and surrounding catchment areas.

More thorough engagement with the Aboriginal community is required. Including having Aboriginal representation on the Community Consultative Committee so that values and concerns of Country can be considered more appropriately.



Response

Cleary Bros notes that Section 4.41(d) of the *Environmental Planning and Assessment Act 1979* identifies that an Aboriginal Heritage Impact Permit is not required for a State Significant Project.

Biosis (2021a) (presented as Part 5 of the SCSC) identified that the *Aboriginal Cultural Heritage Assessment* was prepared in accordance with the requirements of the document *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHAR Guidelines). Section 4 of that document identifies the consultation undertaken and Appendix 1 presents a log of all communications with the Registered Aboriginal Parties. In summary, consultation with the Aboriginal community included the following.

- Identification and registration of Registered Aboriginal Parties.
- Presentation of information about the original Project and the proposed survey methodology.
- Consultation in relation to cultural knowledge of the original Project Area and surrounds held by the RAPs.
- Participation in the field survey.
- Review of the draft *Aboriginal Cultural Heritage Assessment*, with responses received from two RAPs and those responses considered when finalising the assessment.

Biosis (2021a) recommends, and Cleary Bros proposes to implement, continued consultation with the Aboriginal community, including the RAPs. As a result, Cleary Bros contends that adequate consultation with the local Aboriginal community has been and would continue to be implemented.

Finally, Cleary Bros notes that the composition of the Community Consultative Committee is a matter for the independent chairperson of the Committee. Notwithstanding this, the *Community Consultative Committee Guidelines* dated January 2019 identify that members of the committee can include representatives of stakeholder groups, including Aboriginal groups.

European Heritage

This part of Shellharbour is a cultural landscape where the individual heritage items are connected by views, topography and historical associations. The setting of this cultural landscape is the location above the coastal plain within the backdrop of the Illawarra Escarpment. Individual heritage items cannot be considered in isolation of this cultural landscape. The statement of significance for each heritage item demonstrates the important interrelationships between these items that together comprise the cultural landscape. It is proposed to demolish 'Belmont'. The heritage impact assessment determined that the demolition of Belmont was permissible from a heritage perspective based upon the findings of a structural integrity report submitted. The report states:

"The purpose of this report is to detail the assessment of the existing structure as measured against the current Australian Standards and provide commentary on the suitability of the structure for future use."

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Measuring the structure against current codes is problematic for buildings such as Belmont that were not constructed according to these codes. When assessing older buildings constructed prior to the introduction of the codes a performance-based approach is more useful. The report is dated 5 November 2018 and states that the Belmont building is in a severe state of dilapidation. A dilapidation report dated April 2018 by Design 5 Architects did not identify “severe dilapidation”. Only 8 out of 88 photographs described any damaged fabric. The current condition has not been assessed. As the heritage impact assessment conclusion is based upon the structural assessment it is essential that an up-to-date structural assessment is prepared. The assessment should be prepared by structural engineers familiar with using performance criteria to assess heritage buildings.

In addition to the comments provided by Council, the DPE has provided a range of further comments that have been provided as representations by community members to the Department relating to the proposed demolition of the “Belmont” Main House, outbuildings and dry stone walls – see the issues listed below (in italics). DPE has also requested that this report documents the impacts of the adjoining “Hill Complex”, particularly with respect to long term visual impacts.

- *the view that demolition of the Belmont Homestead is not consistent with minimising the loss of cultural heritage within the landscape*
- *the erosion of the green belt between the quarries and surrounding residential areas*
- *significant loss of historical value to the Shellharbour area*
- *the importance of the homestead to the region*
- *the loss of irreplaceable history*
- *the homestead as an example of early settlement in the area*
- *consistency of the proposal with the objectives of the Shellharbour LEP that relate to historic heritage*
- *the listing of the homestead on the NSW State Heritage Inventory as having an important contribution to the local history of Shellharbour*
- *concerns relating to the dilapidation of the homestead and responsibility of Cleary Bros to maintain heritage items*
- *not opposed to quarrying, but call for respect and protection of heritage sites*
- *the request/desire for Cleary Bros to preserve the homestead for future generations*
- *repair of the building without potential damage*
- *the responsibility of Cleary Bros for not maintaining the homestead and therefore it’s state of disrepair*
- *request to consider the relocation of the homestead, linked outbuildings and walls to another safe site*
- *the view that the proposal is being pushed through without consideration to the impact and the prioritisation of profit over heritage values*
- *the view that the local history can not be lost and the project should not be approved*
- *Cleary Bros investment in historical museum, and a request for Cleary Bros to continue to demonstrate belief in the importance of preserving history*



Response

It is noted that the following is informed by a meeting between Cleary Bros and Council representatives on 12 August 2022. In particular, Cleary Bros and Council discussed additional measures that Cleary Bros could undertake to capture the heritage values of the site and facilitate the communication of these values with the local community. Cleary Bros has been in discussions with companies that specialise in developing interactive three-dimensional virtual models of structures, and believes this could be a way to capture and share the site with the community. The model would form two parts, which would be made available for members of the community to access.

- The first part would involve an interactive walkthrough of the internal and external features of “Belmont” Main House, rebuilt using internal scans taken prior to its removal. This would allow users to navigate virtually through a 3D rendered recreation of the “Belmont” Main House, with users able to click on and learn about the key facets of the structure through information (text or multimedia) provided by an Archaeologist.
- The second part of the model would involve an animated re-creation of the locality, assisted by drone photogrammetry, as it would have appeared in the first half of the 20th century prior to any quarrying activity on the adjoining lots. This would allow users to understand at their own pace the locations and boundaries of the early properties, how they were connected to the local community (tracks, etc), local streams, fences, buildings, dry stone walls etc.

This model is being proposed as a constructive means principally to address the impacts of the amended Project upon the local cultural landscape, and to support the communication of these heritage values to the wider community. It is intended that this digital experience would be shared on the Cleary Bros website for any member of the public to experience. Cleary Bros has discussed this concept with Council, who have suggested that it could also be shared through their Museum, ensuring access for local community members with limited computer access.

Finally, input would be sought from interested local residents to guide the development and delivery of the model to ensure that the legitimate concerns of the local community are reflected in the final product. While it is not possible to retain the physical “Belmont” heritage item as it currently stands as part of the amended Project, Cleary Bros believes this technology provides a much greater opportunity for the wider community to experience and explore the “Belmont” than is currently possible.

The following notes address the various issues raised in Council’s comments and the representations from community members in relation to the “Belmont” Main House, outbuildings and dry-stone walls heritage item.

(a) The importance of “Belmont” Estate to the local and regional Cultural Landscape

- Cleary Bros acknowledges the significance of the “Belmont Estate” in the cultural landscape of the surrounding area and its siting within the elevated landforms above the coastal plain near Shellharbour in proximity to other heritage properties and items. Notwithstanding this, Cleary Bros notes that retention of the structures would largely sterilise the resource within the amended Project Area and make the



amended Project, as presented, unviable. This would result in the benefits of the amended Project, as outlined in Section 6.13 of the EIS, not being realised. These direct and indirect benefits include a total of 219 jobs and \$90M in output, \$36M in value-added and \$18M in gross wages annually,

- Recognising the above, Cleary Bros has proposed a comprehensive set of management and mitigation measures to compensate for the amended Project's impacts, including a comprehensive and accessible three-dimensional rendering of the building and surrounds. Additional management and mitigation measures are outlined in point (i) below.

(b) Structural integrity of the "Belmont" Main House

- Cleary Bros acknowledge Council's comments in relation to assessing the structural integrity of the "Belmont" Main House against a "performance-based" criteria. However, as a corporation with substantial obligations in relation to the safety and integrity of all infrastructure, compliance with recognised standards, including current Building Codes and Australian Standards, is an important component of the Company's risk-management processes.
- In light of the above, Cleary Bros stands by the assessment presented in Section 4.2.1 of Biosis (2021a) that the "structural elements of "Belmont are in substantial disrepair and do not meet the requirements of current and applicable building codes or Australian Standards". Furthermore, Biosis (2021a) note that:

"it is impractical and unfeasible to undergo rectification works to upgrade the existing structure to acceptable levels. The resulting construction would likely further damage the structure and by completion of works, very little of the original structure and materials would remain."
- Based on the above, any attempt to renovate/restore the building would need to be undertaken to the current Building Codes and Australian Standards which in turn would make these works economically unviable.
- Furthermore, Cleary Bros note that the residence is not occupiable, nor is it suitable for visitation by the public, given the proximity of the existing Extraction Area and its state of dilapidation. As a result, the structural integrity of the building is not relevant as there would be no beneficial use for the building should it be preserved and, therefore, limited benefit in repair or retention of the structure.

(c) Relocation of "Belmont" Main House, outbuildings and dry stone walls

- Cleary Bros has investigated the potential for the potential relocation of the "Belmont" Main House. Relocation of the house was determined not to be practicable because of the age and condition of the building and the costs associated with relocation. Furthermore, the relocation of the entire building would result in the heritage values being substantially lost, as the heritage values largely revolve around the setting and surroundings of the building in its current environment. As a result, there would be limited benefit in relocating the building.



- Cleary Bros has committed in Section 6.7.7 of the EIS to commissioning a stone waller to relocate and rebuild the dry stone walls that are within the Stage 7 extraction area. The locations of the relocated walls would be presented within the updated Heritage Plan which would be prepared and submitted to DPE prior to the disturbance of the dry stone walls.

(d) Consistency of the amended Project with Shellharbour LEP 2013 Objectives

- Cleary Bros has sought, to the extent possible given the status of the “Belmont” Main House and associated heritage items and the location of the resource, to ensure consistency with the objects of the Shellharbour LEP 2013, namely “to conserve, protect and enhance the heritage values of Shellharbour”. Whilst the dilapidated “Belmont” Main House would be removed, Cleary Bros commitment to the management and mitigation measures outlined in (i) below would in effect protect and enhance the heritage values of Shellharbour through the comprehensive documentation and knowledge sharing in relation to the Belmont Estate.

(e) Cleary Bros’ responsibilities of maintenance of heritage items

- Bridon Pty Ltd, an associated entity of Cleary Bros, purchased the “Belmont” property in 1985, and since this time has focused upon management of the rural land component of the property, principally with respect to weed and fire management to support agricultural activities. The “Belmont” Main House is located within 25m of the approved Stage 1 to 6 Extraction Area and, as a result, the building is unoccupiable and, as a result, expenditure of significant funds to maintain the structure has not been justifiable.

(f) Long-term visual impacts from “The Hill Complex”

- The close proximity of “The Hill Complex”, including Residences R1 and R2 within the “Figtree Hill” property, to the Stage 7 extraction area has been carefully considered during the design of the extraction area, extraction sequence and rehabilitation stages. During the Stage 7 operational life, visual impacts from The Hill Complex would be minimised through the proposed extraction sequencing, together with the progressive establishment of vegetation on the upper extraction benches, some of which would be visible from residences R1 and R2 and surrounding out buildings and farmland.
- By the time extraction ceases within Stage 7, the vegetation on the upper benches on the western and southern sides of the extraction area which would be visible from the Hill Farm Complex would be 15 to 20 years old and well advanced. The views from residences R1 and R2 towards the former extraction area would largely be composed of advanced vegetation, albeit with a degree of linearity reflecting the presence of the near horizontal benches.

(g) Prioritisation of profit over heritage values

- Cleary Bros does not support the claims that profits are being prioritised over heritage values. Rather, as a locally based, private company, the amended Project would permit Cleary Bros to continue to directly and indirectly support the jobs of

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219 locally-based persons, as well as generate \$90M in output, \$36M in value-added and \$18M in gross wages annually. Furthermore, the amended Project would assist to better document and communicate the heritage values of the local area. The level of knowledge sharing regarding the local heritage values would be significantly less without the proposed contribution by Cleary Bros.

(h) Cleary Bros' commitment to preserving history

- In accordance with recommendations made by Biosis (2021b), an *Archival Report* (Biosis, 2021c) including a digital photographic archival recording of the Belmont Main House was undertaken and is presented in Part 6 of the *Specialist Consultant Studies Compendium*. The Archival report was prepared in accordance with the NSW Heritage Council guidelines *How to Prepare Archival Records of Heritage Items* and *Photographic Recording of Heritage Items Using Film or Digital Capture 2006*.
- Furthermore, Cleary Bros has demonstrated its commitment to preserving the historical context of the “Belmont” Main House through its proposal to develop a comprehensive, detailed three-dimensional virtual model of the building and surrounds as described above. Cleary Bros would also investigate the potential to contribute documentation and/or artefacts from the main house or outbuildings to any historical museum established by Council or others on request.

(i) Management and Mitigation Measures

Section 6.7.7 of the EIS records that Cleary Bros would implement the following management and mitigation measures in order to avoid any unnecessary adverse impacts on items and sites of historic heritage value.

- Undertake further archaeological investigations, including monitoring for the presence of archaeological deposits or remains during demolition and ground disturbance works in the immediate vicinity of the heritage items. Depending on the nature of the uncovered remains, further excavations may be required. These investigations would:
 - follow the intent of the Heritage Act;
 - be conducted by a suitably qualified heritage consultant who meets the NSW Heritage Council’s Excavation Director criteria; and
 - be supported by an archaeological assessment (i.e. Biosis (2021b)) and an Archaeological Research Design.
- Engage an experienced dry stone waller to undertake salvage and reconstruction works for dry stone walls C and D.
- Update the current *Albion Park Quarry Heritage Management Plan* to include the archaeological investigations, archival recording of the Belmont Main House and the salvage and reconstruction method and location of dry stone walls C and D.

In addition to the above management and mitigation measures, Cleary Bros has committed to the preparation of the three-dimensional digital model of the former cultural landscape to assist in mitigating the impacts of the amended Project.



Impact upon Cultural Landscape

The heritage impact assessment has provided an analysis of the impact upon building fabric and archaeological potential. There are numerous heritage items in the vicinity as discussed above, which together create an important cultural landscape which tells the early history of Shellharbour and has aesthetic values in the context of the Illawarra Escarpment.

The extension to the quarry will expand the existing incision into the landscape which will have a physical impact upon the cultural landscape. Council is concerned that the proposed mitigation measures together with the impact of excavation is not in keeping with the history and character of the cultural landscape. The mitigation measures, excavation, vehicle movements, noise and dust will be detrimental to the integrity of the heritage items and their cultural landscape.

The heritage significance of heritage item I209 will be lost due to loss of all significant fabric. The setting and view of heritage item I022 will be adversely impacted by the proposal. The heritage significance of the Croom and Dunmore cultural landscape as defined by heritage items I209, I022, I281, I177, I024 and I025 will not be conserved or protected by the proposed development.

Council recommends that Heritage Management Plan is updated as part of the EIS and not subject to condition to allow suitable assessment and review to be carried out.

Response

Cleary Bros notes that quarrying and mining in the Illawarra have been a significant part of the local landscape for well over 150 years, with coal mining commencing at the Mt Keira Coal Mine in 1849 and quarrying commencing in a number of locations after 1865. As a result, quarrying and the expansion of existing quarry operations has been a feature of the cultural landscape for some time. The amended Project is simply the latest in a long succession of quarry-related projects.

Cleary Bros contends that preparation of Management Plans for State Significant Development is typically a post-approval conditional requirement of any development consent issued. It is anticipated that consultation with Shellharbour City Council will be a requirement for the preparation of the Heritage Management Plan required for Stage 7.

4.2.7.7 Visual Impact

Section 3.12.6.1 & .2 of the EIS discuss rehabilitation including amenity barrier and 3m wide terraces. Council raises concern that at this narrow width, monitoring, maintenance and watering may be an issue. Confirmation of how this will be carried out is required.

Response

Cleary Bros notes that shaping and revegetation of the proposed amenity barrier would be undertaken at the natural land surface and access for construction and maintenance operations would be unconstrained by development of the extraction area.

Establishment of the revegetated benches would be undertaken in the manner described in Section 3.12.6.1 and Figure 3.11 of the EIS and Section 4.2.2.2 and **Figure 6** of this document. In summary, overburden and potentially soil would be placed on the footprint of each final bench

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and revegetated before the next (lower) bench is developed. As a result, access for machinery and equipment would be unconstrained by bench widths until the bench below is developed. Following development of the next bench, access would be maintained for personnel to walk along the benches to undertake maintenance and monitor the revegetated benches.

Visual impacts on the nearby school (Shellharbour Anglican College) and some surrounding residents also need to be considered as to whether this expansion will be visible from the new Shellharbour Hospital site in Dunmore.

Response

Visual amenity impacts at Shellharbour Anglican School and surrounding residences are addressed in Section 6.4 of the EIS and in the *Visual Impact Assessment* (Part 3 of the SCSC). Specifically Figures 6.4.6 and 6.4.7 of the EIS present existing and anticipated views from Site 5, located at the intersection of Piper Drive and Dunmore Road. The entrance to the Shellharbour Anglican College is visible on the left-hand side of the photomontages.

In relation to the proposed Shellharbour Hospital, the general location for the hospital was announced in mid-2021 and to Cleary Bros' knowledge, no information is available in relation to the design or layout of the proposed development. Notwithstanding this, Section 6.2 of the *Amendment Report* presents an assessment of visual amenity-related impacts at the site of the proposed Hospital.

Council recommends that timing for delivery of landscaped amenity barriers and maintenance as conditions of consent if the expansion is supported.

Response

Cleary Bros would agree to accept conditions of consent stipulating the timing of construction of the amenity barrier, noting the amenity barrier located along the boundary with "Figtree Hill" and Stage 7 will no longer be required as agreed with the owners of "Figtree Hill". Maintenance operations would be ongoing and would be reported in each Annual Review for the amended Project.

4.2.7.8 Traffic and Transport

It is acknowledged that general traffic flow along the East West Link will increase with the growth of the Shellharbour area, together with the bike lanes. Council requests that a condition of consent that stipulates the quarry access road and the East West Link road surface is regularly cleaned to maintain delineation and reduce the risk of slippery road surface, especially in the bike lanes.

Council is currently in discussion with TfNSW regarding the street lighting along the East West Link, it is recommended that the applicant is required to provide street lighting from the site to the East West Link as part of the proposed extension.



Response

Cleary Bros notes that transportation of quarry materials from the processing plant (which operates under a 1963 deed with Council) to the East-West Link does not form a component of the amended Project. Notwithstanding, Cleary Bros notes that it has sealed sections of the processing plant area to limit the trafficking of dust and other materials onto public roads and actively manages this issue on a day-to-day basis.

In addition, Cleary Bros notes that street lighting along the public road network is a matter for Council and that it has no objection to Council's proposal to improve street lighting on the East West Link. However, as the amended Project would not change traffic levels or volumes and transportation does not form a component of the amended Project, Cleary Bros contends that a requirement of the Company to contribute to a street lighting program outside the company owned property would not be reasonable.

4.2.7.9 Bush Fire

The Project Area is within land mapped as Bushfire Prone Land. As State Significant Development, a bushfire assessment is not required nor is concurrence required from the NSW Rural Fire Service. Notwithstanding, in considering bushfire risk, the determining authority need to be satisfied that the proposal will not:

- *increase risk of bushfire attack to the site;*
- *hinder emergency egress from the site, or emergency access to the site;*
- *affect water supply for purposes of bushfire fighting, noting supply being available from the water sumps at the base of each pit.*

Response

Section 6.11.2 of the EIS addresses bushfire hazards. That assessment determined the following.

“With the implementation of the proposed safeguards and controls, it is considered that the bush fire hazard associated with the Project would be acceptable and the Project would not significantly contribute to raising the risk of bush fires impacting the fenceline neighbours, property or environmental assets.”

In light of the above, Cleary Bros contends that the amended Project would be consistent with each of the matters identified by Council.

4.2.7.10 Crime Prevention Through Design

Council considers it important to consider access control into the site, for example locks, bars and alarms. This is particularly important as there is very limited passive surveillance and it may be attractive to vandals as it is isolated.

Response

Cleary Bros would continue to secure all access points to the amended Project Area, including locked gates, when unattended.



4.2.7.11 Rehabilitation

The submitted information states that the applicant will:

“Prepare and implement a Biodiversity Management Plan detailing the biodiversity mitigation and management measures required at the Quarry. This plan would include procedures for the monitoring of rehabilitation outcomes and describe the implementation of the proposed staged biodiversity offsets described in Section 3.13.4.”

This is a critical commitment. It is recommended that provision of a Biodiversity Management Plan be a condition of consent required for submission prior to commencement of works. Further details are requested confirming the applicants legal commitments to rehabilitating the site – whether in the EPL or a Deed of Agreement with the NSW Government.

Response

Cleary Bros anticipates that a Biodiversity Management Plan would be required to be prepared following granting of development consent and prior to commencing the amended Project. In addition, Cleary Bros anticipates that the current rehabilitation bond required under Condition 42 of Schedule 4 of development consent LEC 10639 of 2005 would be increased for the amended Project.

4.3 Public Submissions and Representations

4.3.1 Submissions in Support

A total of 61 public submissions were received by DPE following the public exhibition of the EIS for the original Project. The public submissions, all of which expressed support for the original Project, may be separated into the following general categories.

- Supporting public submissions – 52 individual submissions from employees of Cleary Bros.
- Supporting public submissions – 3 individual submissions from suppliers or businesses that rely on Cleary Bros for materials and employment.
- Supporting public submissions – 6 individual submissions from members of the local community and general public.

Common themes identified in the submissions included the following.

- Cleary Bros support of local medium/small businesses with materials.
- Long term employment of local people.
- Support for the regional economy and the social wellbeing of local communities, groups, and activities.
- Support for local community groups, including local sporting clubs.



- The quality of the material from the Quarry.
- Support the ongoing development of the region through supply of materials to major projects.

4.3.2 Submissions by way of Objection

No objections were received.

4.3.3 Representations Received Post Exhibition

A range of representations were received by DPE following the conclusion of the public exhibition of the EIS for the original Project, all of which related to the historic heritage of the “Belmont” Main House, outbuildings and dry stone walls. The DPE provided Cleary Bros with a summary of the issues raised in these representations, all of which have been addressed in conjunction with the historic heritage issues raised by Shellharbour City Council in Section 4.2.7.6.



5. Updated Project Justification

5.1 Introduction

A comprehensive evaluation and justification of the original Project as exhibited is provided in Section 7 of the EIS.

Section 7 of the *Amendment Report* provides a justification of the amended Project. The following subsections provide an updated justification and evaluation of the amended Project taking into consideration matters raised in the submissions.

5.2 Actions taken to Avoid / Minimise Impacts

In addition, in light of the submissions received, Cleary Bros has committed and/or clarified the following actions that would avoid/minimise impacts of the amended Project.

- The Stage 7 Extraction Area has been reduced in size to reduce impacts to the *Melaleuca armillaris* Tall Shrubland, *Zieria granulata* and an individual *Cynanchum elegans*.
- The upper 42m of the northern face of the Stage 7 Extraction Area would be developed as a series of 7m high faces with 3m wide benches, with revegetation on each of the benches to be commenced prior to the next bench being developed.
- The final landform has been amended to include smaller water storages that would passively discharge to natural drainage.
- Identification of additional areas of *Melaleuca armillaris* Tall Shrubland and areas that could be restored to improve and extend the coverage of this community.
- A commitment to develop a three-dimensional interactive model of the “Belmont” Main House and surrounds in consultation with the local community to record and communicate heritage-related aspects of the building and surrounding landscape.
- Clarification of a prior commitment that Stage 7e would not be developed until the upper benches of the western face of the Stage 7 Extraction Area have been successfully rehabilitated and have achieved identified rehabilitation completion criteria.



5.3 Consistency with Strategic Context

Section 7.5.1 of the EIS and 7.3 of the *Amendment Report* address the strategic context of the amended Project as exhibited and as amended respectively. No additional information is required to address the strategic context of the amended Project in light of the submissions received.

5.4 Compliance with Statutory Requirements

Section 7.5.2 of the EIS and 7.4 of the *Amendment Report* address compliance with the statutory requirements for the Project as exhibited and as amended respectively. A range of submissions received from Government Agencies clarified matters associated with the original Project's statutory requirements. Considering the submissions received, Cleary Bros notes the following.

- Biodiversity-related concerns raised in submissions have been addressed through a reduction in the area of disturbance, avoidance of areas of high-biodiversity value and identification of mechanisms to extend the areas mapped for the *Melaleuca armillaris* Tall Shrubland community, thereby ensuring consistency with the requirements of the *Biodiversity Conservation Act 2016*.
- Water licencing concerns have been addressed through clarification of the required water licences, thereby ensuring compliance with the *Water Management Act 2000*.
- There is no change to the pre-conditions for approval and mandatory considerations identified in Appendix B of the EIS and Appendix 2 of the *Amendment Report*.

5.5 Consistency with Community Views

A total of 61 public submissions were received during the exhibition period, all of which were supportive of the original Project.

A range of further comments that have been provided as representations by community members to the Department relating to the proposed demolition of the “Belmont” Main House, outbuildings, and dry-stone walls. While acknowledging the representations as well as the preference of those making the representations that the “Belmont” Main House be retained, Cleary Bros contends that retention would result in sterilisation of the amended Project and resource and a loss of the substantial benefits that would flow from the amended Project. Cleary Bros would work with interested members of the community to ensure that while the “Belmont” Main House may be removed by the amended Project Area, information about the heritage setting and values are preserved and communicated.

5.6 Scale and Nature of Anticipated Impacts

Sections 7.2 and 7.3 of the EIS and 7.6 of the *Amendment Report* address the scale and nature of anticipated impacts of the amended Project in terms of the precautionary principle and biophysical, social and economic impacts.



Cleary Bros have amended the original Project in light of submissions received, and that the amended Project would result in adverse impacts that are less than those originally proposed in the EIS.

5.7 Compliance Monitoring and Communication

There would be no substantive changes to the existing and proposed environmental monitoring and management measures as a result of the submissions received.

Notwithstanding, Cleary Bros would continue to monitor and report on the environmental performance of its operations and compliance with the relevant conditional requirements of all approvals, licences and consents. Furthermore, Cleary Bros would ensure that monitoring of the upper section of the rehabilitated western face of the Extraction Area demonstrates compliance with the identified rehabilitation completion criteria prior to commencing Stage 7e of the amended Project.

5.8 Remaining Uncertainties

Section 7.8 of the *Amendment Report* documents remaining uncertainties associated with the amended Project, and proposed mitigation measures.

5.9 Consequences of not Proceeding

Section 7.6 of the EIS and 7.9 of the *Amendment Report* address the consequences of not proceeding with the amended Project. The submissions received did not raise any additional matters that would impact on the conclusions reached in those documents.

5.10 The Public Interest

Section 7.10 of the *Amendment Report* addresses the public interest as it relates to the amended Project.

There is clearly evident support for the employment and other economic opportunities that the Project as exhibited and amended would provide across the local and regional economies. However, it is also acknowledged that there is concern about the Project as exhibited from a number of community members, specifically in relation to heritage-related impacts.

Notwithstanding the above, the amended Project would supply high quality quarry products for infrastructure development for a period of 30 years from an area that has been recognised as a strategically important resource area.

In light of the above, Cleary Bros contends that the amended Project would be consistent with public interest compared to the Project as exhibited. The amended Project would have environmental impacts less than or no greater than those presented in the EIS.



5.11 Conclusion

In conclusion, the submissions received raised a range of relevant matters, each of which have been appropriately addressed adequately. As a result, Cleary Bros contends that there are no matters or considerations that would prevent approval of the application for development consent and development of the amended Project as described in the *Amendment Report*.



6. References

- Australian and New Zealand Environment and Conservation Council (ANZECC) (2000).** *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, October 2000.
- Biosis Pty Ltd (2021a).** *Aboriginal Cultural Heritage Assessment*. Presented as Part 5 of the *Specialist Consultant Studies Compendium* for the EIS. Prepared on behalf of Cleary Bros (Bombo) Pty Ltd.
- Biosis Pty Ltd (2021b).** *Statement of Heritage Impact*, Part 6 of the *Specialist Consultant Studies Compendium*, prepared for Cleary Bros (Bombo) Pty Ltd.
- Biosis Pty Ltd (2021c).** *Archival Report*, Part 6 of the *Specialist Consultant Studies Compendium*, prepared for Cleary Bros (Bombo) Pty Ltd.
- Niche Environment & Heritage Pty Ltd (2022).** *Amended Biodiversity Development Assessment Report*, October 2022. Presented as Appendix 4 of the *Amendment Report* (RWC, 2022). Prepared on behalf of Cleary Bros (Bombo) Pty Ltd.
- NSW Department of Planning, Industry and Environment (2020).** *Biodiversity Assessment Method*.
- Strategic Environment and Engineering Consulting (SEEC) Pty Ltd (2021).** *Soil and Surface Water Assessment*, Presented as Part 7 of the *Specialist Consultant Studies Compendium* for the EIS. Prepared on behalf of Cleary Bros (Bombo) Pty Ltd
- R.W. Corkery & Co. Pty Limited (RWC) (2022).** *Amendment Report*, October 2022. Prepared on behalf of Cleary Bros (Bombo) Pty Ltd.



Appendices

- Appendix 1 Register of Submitters
- Appendix 2 Updated Table of Mitigation Measures
- Appendix 3 Landscape Character Impact Assessment
- Appendix 4 Response to Request for Information -
Noise and Blasting Assessment