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Environmental & Social Consultants

Walker Quarries

REHABILITATION MANAGEMENT PLAN

Wallerawang Quarry

FINAL

February 2024

REHABILITATION MANAGEMENT PLAN

Wallerawang Quarry

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Walker Quarries

Project Director: Adam Williams
Project Manager: Caroline Gazi
Report No. 4433/R24
Date: February 2024

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

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Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
V1.0	Adam Williams	13 February 2024	Adam Williams	13 February 2024

Summary Table

Wallerawang Quarry Rehabilitation Management Plan		
Name of Mine:	Wallerawang Quarry	
Rehabilitation Management Plan Commencement Date:	13 February 2024	
Rehabilitation Management Plan Revision Dates and Version Numbers:	Version 1	31 January 2024
Mining Leases:	ML 1633 (expires 15/07/2040) ML 1864 (expires 27/10/2044) ML 1865 (expires 27/10/2044)	
Name of Lease Holder:	Walker Quarries Pty Ltd	
Date of Submission:	14 February 2024	

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1.0 Introduction to Mining Project

This Rehabilitation Management Plan (RMP) has been prepared for Walker Quarries in accordance with the NSW Resources Regulator's (RR) *Form and Way – Rehabilitation Management Plan for Large Mines* (NSW RR, July 2021a) and to satisfy the requirements of the Mining Amendment (Standard Conditions of Mining Leases – Rehabilitation) Regulation 2021 (the Regulation) which commenced on 2 July 2021 and came into force on 2 July 2022. The Regulation applies to Mining Lease (ML) 1633, ML 1864 and ML 1865. In accordance with Clause 16(2) of the Regulation, this RMP is publicly available on the Walker Quarries' website.

The RMP has also been prepared to satisfy the requirements of Development Consent DA 344-11-2001 as outlined in **Table 1.1**. The former Department of Planning and Environment (DPE), now the Department of Planning, Housing and Infrastructure (DPHI)), endorsed the appointment of Adam Williams, Principal Environmental Consultant at Umwelt (Australia) Pty Limited (Umwelt), as a suitably qualified and experienced person to prepare this RMP. Evidence of DPHI endorsement has been provided as **Appendix A**.

Table 1.1 RMP Development Consent Conditions

Condition	Section Addressed
31. The Applicant must prepare a Rehabilitation Management Plan for the project to the satisfaction of RR. This plan must:	This RMP
a. be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary	**Section 1.0** and **Appendix A**
b. be prepared in consultation with the Department, DPIE - Water, FCNSW, BCD, WaterNSW and Council;	**Section 4.2, Appendix D**
c. be submitted to RR and the Secretary for approval within three months of the determination of Modification 1, unless the Secretary agrees otherwise, and Modification 3, unless the RR agrees otherwise;	**Section 4.2**
d. be prepared in accordance with any relevant RR Guideline	This RMP
e. describe how the rehabilitation of the site would achieve the objectives identified in Table 6 and be integrated with the Biodiversity Offset Strategy described in condition 24;	**Section 6.2** and **Section 6.4**
f. include a detailed soil and growing medium balance for the development;	**Section 6.2.4**
g. include a detailed plan for the reinstatement and review of the proposed rehabilitated woodland areas and fauna habitat, including a protocol for periodic trials to demonstrate that the target vegetation community is being achieved;	**Section 6.0, Section 7.0**, **Section 8.0** and **Section 9.0**
h. include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and for triggering remedial action (if necessary);	**Section 4.1** and **Section 10.0**

Condition	Section Addressed
i. describe the measures to be implemented to ensure compliance with the relevant conditions of this consent, and address all aspects of rehabilitation including closure of the development, final landform (including final voids), final land uses;	Table 1.1, **Section 2.3, Section 2.4, Section 4.0** and **Section 6.0**
j. include procedures for the use of interim stabilisation and temporary vegetation strategies, where reasonable to minimise the area exposed for dust generation;	**Section 6.1** and **Section 6.2**
k. include a program to monitor, independently audit and report on the effectiveness of the measures in paragraph (h) above, and progress against the detailed performance and completion criteria in paragraph (g) above; and	**Section 8.0** and **Section 11.0**
l. build on to the maximum extent practicable and integrate with the other Management Plans required under this consent.	This RMP

1.1 History of Operations

Wallerawang Quarry (the Quarry) is an open-cut quartzite mine operated by Walker Quarries Pty Ltd (Walker Quarries), a subsidiary of Sitegoal Pty Ltd (Sitegoal). Although defined as a mine by the *Mining Act 1992*, the project shall be referred to as the Quarry for the purpose of this document. The Quarry is located in the Lithgow City Council Local Government Area (LGA) on land adjoining the Great Western Highway, approximately 2 kilometers (km) south of the township of Wallerawang and 8 km northwest of Lithgow (refer to **Figure 1.1**).

Initially formed to search for precious metal resources in the Lithgow area, Sitegoal identified the quartzite resource on the current site. At the time, only a small area had been subject to historic mining related disturbance in the form of the Hoskins Quarry, a hard rock quarry which last operated in 1927.
On identification of the quartzite resource, a development application was subsequently made by Sitegoal to develop and operate the quarry in 2001.

Development Consent DA 344-11-2001 was issued to Sitegoal by the then Minister for Planning and Infrastructure on 19 October 2004. Consent allowed mining of quartzite from an open cut of approximately 6.5 hectares (ha) to a maximum depth of 930 metres (m) Australian Height Datum (AHD) and production of up to 500,000 tonnes (t) of Quarry products per calendar year for an initial period of 10 years from the date of granting a mining lease. Mining Lease (ML) 1633 was granted by the NSW Minister for Mineral Resources on 15 July 2009. In December 2009, notification was received from the Director General of the then DPE that all applicable conditions of DA 344-11-2001 had been satisfied, enabling commencement.

Operations at the Quarry commenced in 2014 with the construction of a new intersection with the Great Western Highway. Mining activities commenced in late 2014 with the Quarry now producing a range of aggregates, pebbles and sand. DA 344-11-2001 has been modified three times:

- Modification 1 (Mod 1) on 25 August 2017 to regularize several constructed components of the Quarry and formalise the approval to produce a more extensive range of quarry products.
- Modification 2 (Mod 2) on 7 December 2018 to provide for a short-term (12 month) extension to the limits on DA 344-11-2001 (to 15 July 2020).
- Modification 3 (Mod 3) on 26 February 2020 to increase the maximum surface area of the open cut to 13.3 ha, depth of the open cut to 900 m AHD and the area of stockpiling by 5.3 ha. This modification also increased the period of approved operations to 15 July 2040.

Walker Quarries was granted ML 1864 and ML 1865 on 27 October 2023, permitting additional open cut mining of quartzite on land covered by DA 344-11-2001 (subject to the conditions of the development consent).

The area covered by DA 344-11-2001 is referred to as the Quarry Site, and includes ML 1633, ML 1864 and ML 1865. As the majority of the Quarry is required for active operations, opportunities for progressive and temporary rehabilitation have been limited. At the commencement of this RMP, the area of disturbance was approximately 17.03 ha, representing 58% of the approved 29.4 ha disturbance area under DA 344-11-2001. Approximately 3.07 ha is land under active rehabilitation.. Rehabilitated land relates to stabilized and vegetated slopes associated with constructed stockpile areas, water storages and bund walls.

1.2 Current Development Consent, Leases and Licences

Table 1.2 presents the development consents, authorisations and licences held for the Quarry.

Table 1.2 Development Consents, Leases and Licences

Number	Granted by	Grant Date	Expiry Date	Purpose
Development Consent				
DA 344-11-2001	DPE	19 October 2004	15 July 2019	Extraction, processing and production of up to 500 000 t of quarry products per year for a period of 10 years from the issue date of ML 1633.
DA 344-11-2001 – Mod 1	DPE	25 August 2017	15 July 2019	Regularisation of Quarry Site layout and incorporation of sand washing operations to produce sand and an increased range of aggregate products.
DA 344-11-2001 – Mod 2	DPE	7 December 2018	15 July 2020	Short term extension of the development consent to allow for planning and assessment of a longer-term extension of the Quarry.
DA 344-11-2001 – Mod 3	DPE	26 February 2020	15 July 2040	Extension of operations until July 2040, increases to the open cut and stockpiling areas of the Quarry.
DA 019/18	Lithgow City Council	February 2018	N/A	Construction of a Training Room and associated amenities.

Number	Granted by	Grant Date	Expiry Date	Purpose
Mineral Authorities				
Exploration Licence (EL) 4473	Minister for Mineral Resources	1 March 1994	12 January 2023 (renewal pending)	Exploration activities.
EL 9255		23 July 2021	23 July 2026	Exploration activities.
ML 1633		15 July 2009	15 July 2040	Mining activities.
ML1864		27 October 2023	27 October 2044	Mining activities.
ML 1865				
Environment Protection Licence				
EPL 13172	Environment Protection Authority	21 October 2009	Reviewed every 5 years	Regulation of noise, dust and water emissions from the Quarry.

1.3 Land Ownership and Land Use

1.3.1 Land Ownership

The development consent and mining tenements are associated with three land titles. **Table 1.3** identifies the land titles and tenure for the Quarry Site.

Table 1.3 Land Ownership

Property (Lot/DP)	Parish	County	Tenure	Owner
7071/1201227	Lidsdale	Cook	State Forest	State of New South Wales
7322/1149335	Lidsdale	Cook	Crown land	State of New South Wales
6/872230	Lidsdale	Cook	Freehold	Sitegoal Pty Ltd

Land tenure and other features of the local built environment are presented on **Figure 1.2**.

1.3.2 Land Use

Land uses within and surrounding the Quarry Site include:

- Forestry – Portions of the development consent area are within the Lidsdale State Forest, which is managed by the Forestry Corporation of NSW (FCNSW). The Quarry Site is associated with non-plantation areas of the Lidsdale State Forest, with plantation forest located less than 100 m to the south.
- Nature conservation – Native woodland is located adjacent to the Quarry Site within the Lidsdale State Forest, Walker Quarry owned land, Crown Land and the Marrangaroo National Park (located 650 m south of the development consent area).

- Rural residential – Low density residential blocks are located to the north and northeast of the Quarry Site, primarily on the opposite side of the Great Western Highway. The closest residence is located 650 m northeast of the Quarry.
- Transportation – The Great Western Highway adjoins the northern boundary of the Quarry Site and is a major highway linking Sydney and the Blue Mountains to Lithgow and the Central West of NSW (via the Mitchell, Castlereagh and Mid-Western Highways).
- Electrical infrastructure – A high-voltage powerline easement crosses the southeastern portion of the Quarry Site. This is owned and managed by Transgrid.
- Water features – Lake Wallace (also known as Wallerawang Dam) is the principal water storage for Wallerawang Power Station. It is a Prescribed Dam under the *Dams Safety Act 2015* and is located 1.3 km north of the Quarry. The Coxs River is located to the southeast of the approved quarry limits, within a steep valley.
- Former quarrying and prospecting operations - The Hoskins Quarry and numerous small prospecting pits are located within ML 1633.

Figure 1.3 presents natural environmental features, including vegetation communities in the vicinity of the Quarry Site.

Section 4.13.5 of the Mod 3 SEE (Umwelt, 2019) states that "as impacts [of Mod 3] would be restricted to the Project Site, the Proposed Modification would not adversely impact on the current land use(s) of surrounding properties (including rural residential uses which rely on local amenity)."

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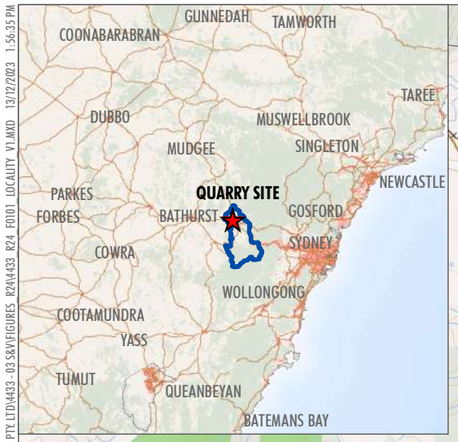

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0 1,000 2,000 Metres

GDA 1994 MGA Zone 56

Image Source: ESRI Basemaps (2020) Data source: NSW DFSI (2020); Geoscience Australia (2020); Walker Quarries (2020)

Note: Anticipated year of relinquishment is 2045

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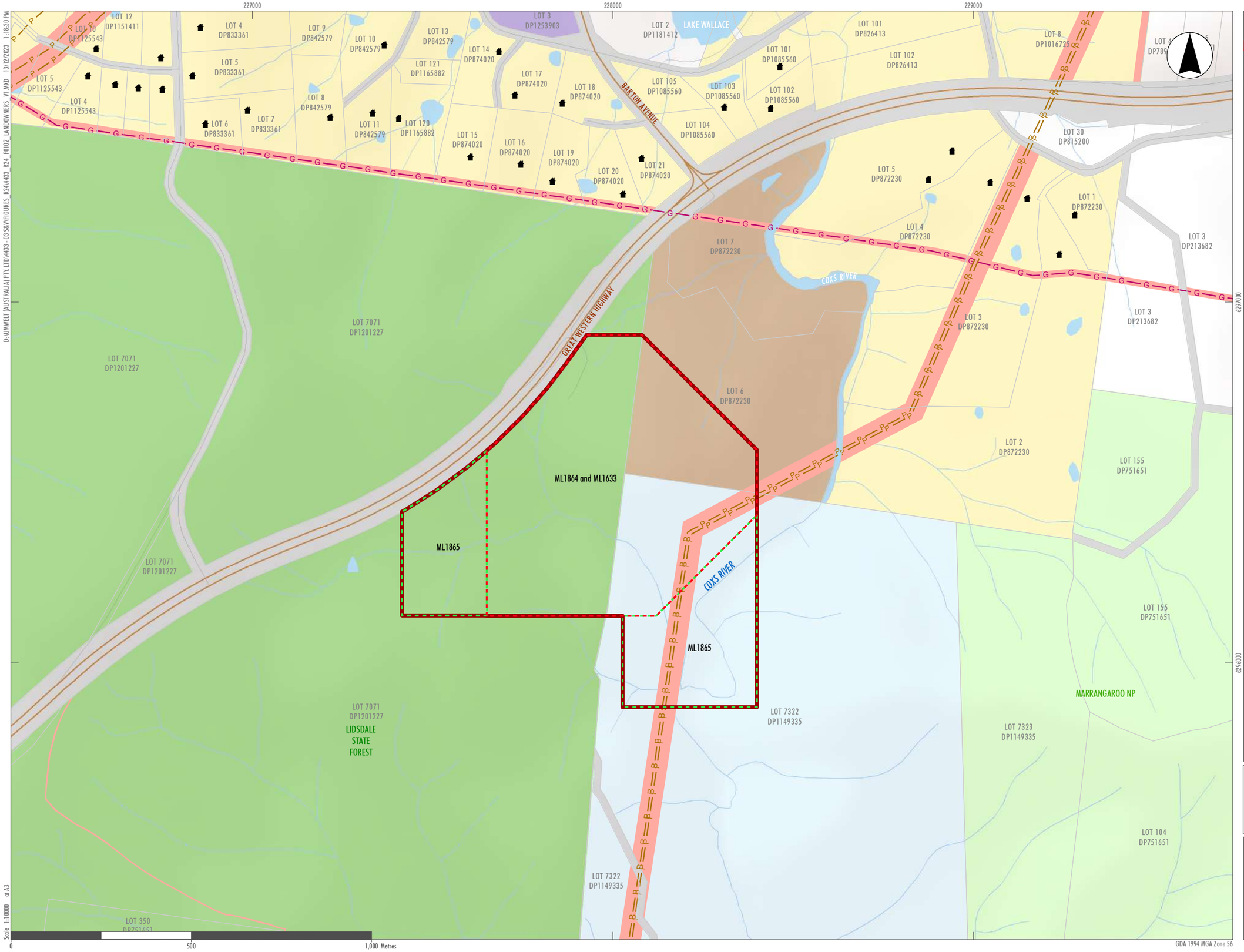
Legend

- Quarry Site - DA 344-11-2001
- Current Titles
- Lithgow City Council
- Coxs River Catchment
- Watercourses
- Watercourses and Dams
- Built Up Areas
- Major Road
- Minor Road
- Main Western Railway
- No flood prone land mapped over ML1633 (Source: Lithgow LEP / Umwelt, 2019)

MINE NAME: WALLERAWANG QUARRY
TITLE HOLDER: WALKER QUARRIES PTY LTD
PREPARED BY: UMWELT PTY LTD
DATE PREPARED: 13/12/2023

FIGURE 1.1

Project Locality



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MINE NAME: WALLERAWANG QUARRY
TITLE HOLDER: WALKER QUARRIES PTY LTD
PREPARED BY: UMWELT PTY LTD
DATE PREPARED: 13/12/2023

FIGURE 1.2

Built Environment and Land Ownership

Image Source: ESRI Basemaps (2020) Data source: NSW DFSI (2020); Geoscience Australia (2020); Walker Quarries (2020)
Note: Anticipated year of relinquishment is 2045

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228000

6297000

GREAT WESTERN HIGHWAY

WALLERAWANG

LIDSDALE STATE FOREST

COXS RIVER

Coxs River Catchment

MARRANGABOO

COXS RIVER

6296000

Scale 1:5000 at A3

0 250 500 Metres

GDA 1994 MGA Zone 56

Legend

- Quarry Site - DA 344-11-2001
- Watercourses
- Watercourses and Dams
- Contours
- Major Road
- Minor Road
- Internal Roads
- Road Corridors
- State Forest
- NPWS Estate

Plant Community Types (PCTs)

- 732 - Broad-leaved Peppermint Ribbon Gum grassy open forest in the north east of the South Eastern Highlands Bioregion, Intact
- 1093 - Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands South Eastern Highlands Bioregion, Intact
- 1093 - Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands South Eastern Highlands Bioregion, Slash
- Other - cleared/disturbed vegetation

MINE NAME:	WALLERAWANG QUARRY
TITLE HOLDER:	WALKER QUARRIES PTY LTD
PREPARED BY:	UMWELT PTY LTD
DATE PREPARED:	13/12/2023

FIGURE 1.3

Environmental Features

Image Source: ESRI Basemaps (2020) Data source: NSW DFSI (2020); Geoscience Australia (2020); Walker Quarries (2020)

Note: Anticipated year of relinquishment is 2045

2.0 Final Land Use

2.1 Regulatory Requirements for Rehabilitation

The regulatory requirements for rehabilitation that apply to the Quarry are presented in **Table 2.1**.

2.2 Final Land Use Options Assessment

The final land use for the Quarry is defined, by virtue of the Development Consent, as passive conservation, i.e. sustainable native woodland with management requirements no greater than the surrounding landforms, based around the retention of a safe and stable void and profiling of remaining areas.

This final land use reflects requests and recommendations made by the FCNSW and the DPHI – Crown Lands, during assessment and approval of Mod 3.

2.3 Final Land Use Statement

The nominated final land use is passive native vegetation conservation with Quarry infrastructure decommissioned and removed. Following the cessation of operations, the site entrance and sealed access road will be retained to allow ongoing monitoring and maintenance of rehabilitation areas, and access to electrical infrastructure and bushfire management. The retention of this infrastructure will be subject to approval from DPHI and the FCNSW (as the landowner).

With the exception of the final void which will be retained to a maximum depth (currently) of 860 mAHD (with extraction below 901 m AHD being subject to additional conditions), the final landform will be moderately undulating to achieve a natural landform design in keeping with the surrounding topography. These landforms would be vegetated to return a native woodland commensurate with the surrounding vegetation. Although the retention of a final void is unavoidable, this is currently approved to remain above the groundwater table.

The final land use goals for the Quarry are:

- To return the Quarry Site to an area of passive conservation, i.e. sustainable native woodland with management requirements no greater than the surrounding landforms.
- To retain a safe and stable void which promotes the natural colonisation of retained benches by native woodland species.
- To implement successful design and rehabilitation of landforms to ensure structural stability, revegetation success and prevention of pollution.
- To ensure rehabilitation and revegetation is self-sustaining and follows the principles of sustainable development.
- To minimise adverse socio-economic outcomes following Quarry closure.

Table 2.1 Regulatory Requirements Relating to Rehabilitation of the Quarry

Requirement	Source	Land to Which it Applies	Timing	Section of this RMP
Development Consent: DA 344-11-2001 Mod 3				
Extraction Depth The Applicant must not conduct quarrying operations within one metre of the maximum groundwater level, with the exception of areas where the Applicant has received the written approval of the Secretary for the construction and use of drainage sumps, groundwater monitoring bores, exploration boreholes or other similar activity agreed by the Secretary.	Schedule 2, Condition 6	Development Consent Area	Active mining phase	**Section 2.4.1**
Prior to the commencement of quarrying operations below 901 mAHD (unless approved under condition 6 of this Schedule), the Applicant must: (a) determine the maximum groundwater level within and adjacent to the proposed extraction area, in consultation with DPIE - Water, using all available groundwater and rainfall monitoring data collected from the site or in the vicinity of the site and appropriate modelling software and parameters; (b) establish the proposed maximum extraction depth to comply with condition 6; and (c) prepare a contour map or similar, showing the proposed maximum extraction depth; for the approval of the Secretary.	Schedule 2, Condition 6A	Development Consent Area	Active mining phase	**Section 2.4.1**
Rehabilitation Objectives The Applicant must rehabilitate the site to the satisfaction of RR and the Secretary. This rehabilitation must be generally consistent with the proposed rehabilitation activities described in the documents listed in condition 2 of Schedule 2 (and shown conceptually in the Rehabilitation Plan in Appendix 2) and comply with the objectives in **Table 6**. **Table 6 Rehabilitation Objectives** Feature: All areas of the site affected by the development Objective: Safe. Hydraulically and geotechnically stable. Non-polluting. Fit for the intended post-development land use.	Schedule 3, Condition 29	Development Consent Area	Prior to relinquishment	**Section 4.1 – Section 4.2**

Requirement		Source	Land to Which it Applies	Timing	Section of this RMP
	Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land.				
Surface infrastructure	Decommissioned and removed, unless otherwise agreed by the Secretary.				
Quarry benches and pit floor	Landscaped and vegetated using native tree and understorey species.				
Final Void	Minimise the size, depth and slope of the batters of the final void. Minimise the drainage catchment of the final void.				
Progressive Rehabilitation The Applicant must rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.		Schedule 3, Condition 30	Development Consent Area	As soon as reasonably practicable following disturbance	**Section 6.1** and **Section 6.2**
ML 1633, ML 1864, ML 1865 - Mining Amendment (Standard Conditions of Mining Leases – Rehabilitation) Regulation 2021 (refer to Appendix B for a full list of conditions)					
Must prevent or minimise harm to environment 1. The holder of a mining lease must take all reasonable measures to prevent, or if that is not reasonably practicable, to minimise, harm to the environment caused by activities under the mining lease. 2. In this clause— harm to the environment has the same meaning as in the Protection of the Environment Operations Act 1997.		Schedule 1, Part 2, Division 1, Clause 4	Lease Area	Ongoing	**Section 3.0, Section 6.0, Section 8.0** and **Section 10.0**

Requirement	Source	Land to Which it Applies	Timing	Section of this RMP
Rehabilitation to occur as soon as reasonably practicable after disturbance. The holder of a mining lease must rehabilitate land and water in the mining area that is disturbed by activities under the mining lease as soon as reasonably practicable after the disturbance occurs.	Schedule 1, Part 2, Division 1, Clause 5	Lease Area	Ongoing	**Section 6.0**
Rehabilitation must achieve final land use 1. The holder of a mining lease must ensure that rehabilitation of the mining area achieves the final land use for the mining area. 2. The holder of the mining lease must ensure any planning approval has been obtained that is necessary to enable the holder to comply with subclause (1). 3. The holder of the mining lease must identify and record any reasonably foreseeable hazard that presents a risk to the holder's ability to comply with subclause (1).	Schedule 1, Part 2, Division 1, Clause 6	Lease Area	Ongoing	**Section 4.0**–**Section 10.0**
Risk assessment 1. The holder of a mining lease must conduct a risk assessment (a rehabilitation risk assessment) that — a. Identifies, assesses and evaluates the risks that need to be addressed to achieve the following in relation to the mining lease— i. The rehabilitation objectives, ii. The rehabilitation completion criteria iii. For large mines—the final land use as spatially depicted in the final landform and rehabilitation plan, and b. Identifies the measures that need to be implemented to eliminate, minimise or mitigate the risks. 2. The holder of the mining lease must implement the measures identified. 3. The holder of a mining lease must conduct a rehabilitation risk assessment – a. For a large mine—before preparing a rehabilitation management plan, b. For a small mine-before preparing the rehabilitation outcome documents for the mine, and	Schedule 1, Part 2, Division 2, Clause 7	Lease Area	Throughout life of mine and until relinquishment	**Section 3.0**

Requirement	Source	Land to Which it Applies	Timing	Section of this RMP
c. Whenever a hazard is identified under clause 6(3)—as soon as reasonably practicable after it is identified, and d. Whenever given a written direction to do so by the Secretary.				
Environmental Commitments (Statement of Environmental Effects, June 2019 (Umwelt, 2019))				
Land Use Goals The nominated post mining land use goals for the Quarry are: • To implement successful design and rehabilitation of landforms to ensure structural stability, revegetation success and prevention of pollution. • To ensure rehabilitation and revegetation is self-sustaining and follows the principles of sustainable development. • To return the Quarry Site to an area of passive conservation, i.e. sustainable native woodland with management requirements no greater than the surrounding landforms.	Section 2.10.1.1	Development Consent Area	Prior to relinquishment	**Section 2.3**
Rehabilitation Objectives • To stabilise all earthworks, drainage lines and disturbed areas not actively included in Quarry operations. • To restore the Quarry Site to resemble the surrounding bushland and to not require maintenance in addition to what may be required in the surrounding bushland.	Section 2.10.1.2	Development Consent Area	Prior to relinquishment	**Section 4.1–Section 4.2**
Rehabilitation Objectives and Targets **Feature** / **Objective** / **Target** Land Use / Produce a sustainable native woodland community. / Landform management requirements no greater than the surrounding landforms.	Section 2.10.1.2 (Table 2.6)	Development Consent Area	Prior to relinquishment	**Section 4.1–Section 4.2**

Requirement			Source	Land to Which it Applies	Timing	Section of this RMP
	Minimise adverse socio-economic outcomes following mine closure.	Preferred final land use determined in consultation with landowners, Council and relevant government agencies. No ongoing economic costs to the community.				
Landform	Provide a low maintenance, geotechnically stable and safe, non-polluting landform and provides land suitable for the proposed final land use.	Geotechnical results show the landform is stable.				
	Construct the final landform such that it is self-sustaining.	Maintenance requirements consistent with the agreed post mining land use(s).				
	Establish and sustain woodland communities adjoining conserved native vegetation remnants to create a contiguous corridor of woodland vegetation.	Woodland vegetation is confirmed (by monitoring) to be sustainable and contiguous.				
Biodiversity	Establish and sustain low maintenance vegetation communities which support habitat for native fauna.	Self-sustaining vegetation communities established.				
Infrastructure	Decommission and remove all infrastructure (unless required for a lawful post mining land use).	All infrastructure removed.				

Requirement			Source	Land to Which it Applies	Timing	Section of this RMP
Final Void	Ensure the final void are safe, stable and secure.	Safety bund constructed and non-eroding. Internal walls confirmed as geotechnically stable				
Final Landform and Land Use Infrastructure Areas • All buildings and other structures, including concrete foundations and slabs would be removed from the Quarry Site (unless these are requested to be retained by the current or future landowner). • Unless retained for a suitable and lawful use, the Quarry Site Entrance and Access Road would be decommissioned and removed. Surface Water Management Structures: • Unless requested to be retained by the current or future landowner, the water storages of the Quarry Site would be decommissioned and removed. • The clean water diversions are expected to be well established at the completion of quarrying operations and the Applicant proposes to retain these. • The approach to rehabilitation of the buried central clean water pipeline would be dependent on whether the lift of the Main Stockpile Area is required. o If sales for overburden materials are identified such that the Stage 2 and 3 lifts of the Main Stockpile Area and Southern Stockpile Area are not required, the Applicant would remove the pipeline and reinstate the central drainage line which would discharge to the new clean water channel to the south. o If the lift of the Main Stockpile Area proceeds (Stage 2), the Applicant would retain the pipeline (below 5 to 10 m of overburden) with discharge to the new clean water channel to the south. Processing and Stockpile Areas:			Section 2.10.2	Development Consent Area	Prior to relinquishment	**Section 2.2**–**Section 4.2** and **Section 6.0**

<table>
<tr><th>Requirement</th><th>Source</th><th>Land to Which it Applies</th><th>Timing</th><th>Section of this RMP</th></tr>
<tr><td>
It is expected that the batters of the stockpile extensions would be well vegetated at the cessation of mining and so landform modification would be restricted to minor reprofiling of the hardstand surfaces to create an undulating and free draining surface.
Void Areas:
An open cut void would be retained. At the completion of extraction, a drainage point would be bored from the base of the extraction area to allow any water which flows into the void (groundwater seepage or rainfall/runoff) to be discharged to the Coxs River to the south.
After removal of the material currently stockpiled, the site of the former Hoskins Quarry (Supplementary Stockpile Area) would be profiled and integrated with the surrounding landform.
In keeping with the commitments made in the MOP (RWC, 2018), the proposed final land use for the Quarry Site, including the rehabilitated stockpile extension areas would be nature conservation. Specifically, the Quarry Site would be revegetated to re-establish the native open forest community which previously occurred across the areas disturbed.
</td><td></td><td></td><td></td><td></td></tr>
<tr><td>
Table 4.23 Rehabilitation Objectives, Performance Indicators and Criteria – Doman 4 (Void)
<table>
<tr><th>Phase</th><th>Objective</th><th>Performance Indicator</th><th>Completion Criteria</th></tr>
<tr><td rowspan="4">Landform Establishment</td><td>Final landform safe and secured</td><td>Access to void restricted by public</td><td>Fencing established to prevent inadvertent access by the public</td></tr>
<tr><td rowspan="2">Stable and permanent landform established</td><td>Landform stability</td><td>Geotechnical report indicating no unacceptable risk of instability</td></tr>
<tr><td>Landform suitable for growth media establishment</td><td>Floor slope <10°
Eastern perimeter slope <55°
Southern perimeter slope <70°</td></tr>
<tr><td>Landform non-polluting</td><td>Active erosion</td><td>No identifiable erosion or sedimentation</td></tr>
</table>
</td><td>Section 4.11.2</td><td>Final Void</td><td>Prior to relinquishment</td><td>Section 4.1 and Section 6.0</td></tr>
</table>

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<tr><th colspan="4">Requirement</th><th>Source</th><th>Land to Which it Applies</th><th>Timing</th><th>Section of this RMP</th></tr>
<tr><td rowspan="3">Growth Medium Development</td><td rowspan="3">Soil properties suitable for the establishment and maintenance of selected vegetation species</td><td>Soil occurrence</td><td>Soil thickness 100–600 mm</td><td rowspan="5"></td><td rowspan="5"></td><td rowspan="5"></td><td rowspan="5"></td></tr>
<tr><td>Chemical and physical properties</td><td>pH 5.0–8.0</td></tr>
<tr><td>Active erosion</td><td>Erodibility (K-Factor) <0.055</td></tr>
<tr><td rowspan="3">Ecosystem and Land Use Development / Ecosystem and Land Use Stability</td><td>Final landform safe and secured</td><td>Access to void restricted by public</td><td>Fencing established to prevent inadvertent access by the public</td></tr>
<tr><td rowspan="2">Stable and permanent landform established</td><td>Landform stability</td><td>Geotechnical report indicating no unacceptable risk of instability</td></tr>
<tr><td>Landform suitable for growth media establishment</td><td>Perimeter slope <70°</td></tr>
<tr><td>Native Vegetation established</td><td>Appropriate native plant species richness</td><td>Natural regeneration on final benches</td></tr>
<tr><td colspan="4">Note A: Analogue Sites (AS) for each vegetation community are identified within the Biodiversity Management Plan for the Quarry. Each AS exhibits biometric and floristic parameters typical of remnant native vegetation of the local setting.</td></tr>
<tr><td colspan="4">Following consultation with FCNSW, the Applicant has agreed to provide for the decommissioning and removal of the Quarry Site Entrance and internal roads, along with all building and fixed plant infrastructure.

As noted in Section 2.10.2 the Applicant believes that the current Quarry Site Entrance provides a far safer access point to the Lidsdale State Forest than provided by the less well-defined access points to the west and should be considered as the principal access point to the Lidsdale State Forest. The Applicant will therefore continue to liaise with FCNSW over the life of the Quarry with respect to the retention of the Quarry Site Entrance and key internal roads as a suitable and lawful use.</td><td>Section 4.11.3.1</td><td>Site entrance</td><td>Prior to relinquishment</td><td>Section 2.3</td></tr>
</table>

Requirement	Source	Land to Which it Applies	Timing	Section of this RMP
The Applicant has agreed to provide for the decommissioning and removal of all water storage structures. On the basis that the proposed clean water diversions would be well established, stable and well vegetated, the retention of these is considered appropriate and in accordance with the existing rehabilitation objectives for the Quarry.	Section 4.11.3.1	Water storage areas and water management areas	Prior to relinquishment	**Section 4.0**
The proposed landform, with slopes over the processing and stockpile areas of between 18° and 25°, would provide for an undulating landform which is sympathetic to the topography of the local setting and allow for the retention of applied soil resources and establishment of native open forest vegetation.	Section 4.11.3.1	Development Consent area, excluding final void.	Prior to relinquishment	**Section 4.0**

2.4 Final Land Use and Mining Domains

Final land use and mining domains at the Quarry have been defined in accordance with the *Form and Way for Rehabilitation Management Plans for Large Mines* (NSW RR, 2021a) and are discussed in **Section 2.4.1** and **Section 2.4.2**, respectively. The final land use and mining domains are spatially defined in **Section 5.0** and **Section 6.1**, respectively.

2.4.1 Final Land Use Domains

The final land use domains are presented and defined in **Table 2.2** for all areas within the MLs as illustrated in the final landform and rehabilitation plans (FLRPs) in accordance with **Section 5.0**.

Table 2.2 Final Land Use Domains

Final Land Use Domain	Description
A. Native Ecosystem	Self-sustaining native woodland ecosystems.
B. Agricultural - Grazing	Not applicable.
C. Agricultural – Cropping	Not applicable.
D. Rehabilitation Biodiversity Offset	Not applicable.
E. Industrial	Not applicable.
F. Water Management Area	Includes the network of water management infrastructure that will be maintained for future use.
G. Water Storage Area	Not applicable.
H. Heritage Area	Not applicable.
I. Infrastructure	Site entrance and initial section of sealed access road being retained in the final landform for future rehabilitation monitoring and maintenance, as well as access to essential electrical infrastructure and for bushfire management.
J. Final Void	Final void to maximum depth of 860 mAHD[1]
K. Other	Not applicable.

[1]*DA 344-11-2001 restricts extraction to a depth no greater than 901 m AHD or 1 m above the maximum groundwater level, until the groundwater level is established in accordance with Schedule 2, Condition 6A of DA 344-11-2001. The maximum groundwater levels will be determined in consultation with Department of Climate Change, Energy, the Environment and Water (DCCEEW) – Water as required by Schedule 2, Condition 6A(a).*

2.4.2 Mining Domains

A summary of the mining domains which have been categorised at the Quarry are presented in **Table 2.3**.

Table 2.3 Mining Domains

Mining Domain	Description

1. Infrastructure Area	Includes all existing infrastructure and facilities at the Quarry including the site access road, administration facilities, workshop, processing equipment/plant, carpark, weighbridge, washdown bay, monitoring equipment, general disturbance and internal roads.
	Hardstand stockpile areas for processing and product storage are also within this domain, including:
	• Main Stockpile Area.
	• Western Stockpile Area.
	• Eastern Stockpile Area.
	• Hoskins Quarry Stockpile Area.
	• Supplementary Stockpile Areas.
	  ○ Topsoil and subsoil stockpile areas.
	  ○ Vegetation stockpile areas.

2. Tailings Storage Facility	Not applicable.
3. Water Management Area	Includes the network of dams (clean and dirty water) and associated diversion drains.
4. Overburden Emplacement Area	Not applicable.
5. Active Mining Area (Open Cut Void)	Active quarry pit area.
6. Underground Mining Area	Not applicable.
7. Beneficiation Facility	Wash Plant.
8. Other	Not applicable.

3.0 Rehabilitation Risk Assessment

A rehabilitation focused risk assessment was conducted on 30 March 2022. The workshop was used to identify the key issues that presented a risk to achieving satisfactory rehabilitation at the Quarry.

The method used for the risk assessment adopts principals of *ASNZ ISO 31000:2018 Risk Management* as referenced in the *NSW Resources Regulator Guideline Rehabilitation Risk Assessment* (NSW RR, 2021b). The risk assessment encompassed the following key steps:

- Identifying the relevant risks and the risk consequence.
- Analysing the risks using a qualitative risk approach (i.e. identifying existing controls, determining specific consequences/likelihoods and then determining the residual level of risk).
- Evaluating the risks.
- Establishing controls to mitigate or treat the identified risks (as required).

In assessing risk to rehabilitation in each case, consideration was also given to the commitments of Walker Quarries embodied in the various environmental management plans:

- Environmental Management Strategy (EMS).
- Soil and Water Management Plan (SWMP).
- Noise Management Plan (NMP).
- Blast Management and Explosives Control Plan (BMECP).
- Air Quality Management Plan (AQMP).
- Biodiversity Management Plan (BMP).
- Aboriginal Cultural Heritage Management Plan (ACHMP).
- Bushfire Management Plan (BFMP).
- Pollution Incident Response Management Plan (PIRMP).

During the risk assessment process 40 risks were identified. Of these risks, 23 were ranked as low, 12 were ranked as medium and 5 as high. A summary of the risk assessment is presented in **Table 3.1**.

Table 3.1 Rehabilitation Risk Assessment Summary

Identified Risk	Risk Ranking	Addressed in this RMP
General / Strategic / Planning		
Insufficient skills and experience of rehabilitation personnel	Low	**Section 6.2**
Lack of clearly defined responsibilities	Low	**Section 11.0**
Insufficient funding for or prioritisation of rehabilitation activities	Medium	Annual Capital Expenditure (Capex) Budget Maintained
Organisational continuity reducing effectiveness of rehabilitation	High	**Section 6.2** and **Section 11.0**
Rehabilitation Phase – Active Mining		
Insufficient rehabilitation resources (soil, capping materials, growth medium) available for salvage and re-use in rehabilitation	High	**Section 6.2**
Rehabilitation resources not managed effectively reducing value for rehabilitation	Low	
Clearing undertaken in adverse seasonal and weather conditions reducing volume/value of rehabilitation resources	Low	
Adverse geochemical/chemical composition of waste rock used to construct or rehabilitate landforms resulting in pollution e.g. sulphides (ARD)	Low	
Dispersive materials impacting on stability of moderate slopes / erosion	Medium	
Contamination events (equipment) impacting on resources	Low	
Rehabilitation Phase – Decommissioning		
Hazards associated with retained infrastructure	Low	**Section 6.2.2**
Retained infrastructure is incompatible with end land use	Low	
Contamination resulting from decommissioning / demolition / removal of infrastructure (identify structures and contaminants)	Low	
Materials and waste products from the demolition process unable to be disposed of	Low	
Groundwater accumulation in void spaces and potential for spillage/seepage to other land and water resources	Low	
Rehabilitation Phase – Landform Establishment		
Unstable landform due to erosion and/or mass movement issues associated with inappropriate design and/or quality assurance during landform construction	Low	**Section 6.2.3**
Unstable/unsafe landform due to movement/collapse of final highwalls	High	
Final landform unsuitable for final land use	Medium	
Landform aspect not suitable for intended target plant/fauna species	Medium	

Identified Risk	Risk Ranking	Addressed in this RMP
Rehabilitation Phase – Growth Medium Development		
Physical and structural properties of substrate not suitable for final landform / land use	Medium	**Section 6.2.4**
Insufficient growth medium (subsoil and topsoil) for rehabilitation activities	High	
Growth medium used inadequate to support revegetation (e.g. lack of organic matter, nutrient deficiency, lack of soil biota, adverse soil chemical properties, exposed hostile geochemical materials, and any other factors impeding the effective rooting depth)	High	
Stockpile of cleared vegetation adversely affecting revegetation / final land use objectives	Low	
Rehabilitation Phase – Ecosystem and Land Use Establishment		
Lack of availability and quality of target seed resources, including genetic integrity	Medium	**Section 6.2.5**
Poor seed viability and/or germination	Medium	
Damage to seed through revegetation process	Low	
Low success in tubestock survival	Low	
Inappropriate or inadequate rehabilitation techniques, including equipment fleet, resulting in final land use objectives not being achieved	Low	
Inadequate weed (serrated tussock) and feral animal management in rehabilitation results in failure to meet final land use	Medium	
Failure of rehabilitation due to inappropriate revegetation species mix for targeted final vegetation composition and land use	Medium	
Failure of rehabilitation to adapt to variation in the climate	Medium	
Land degradation and rehabilitation issues not identified in a timely manner	Low	
Infiltration of non-target species (e.g. cypress pine)	Low	
Seed mix sown in incorrect areas on final landform	Low	
Limited vegetation structural development and limited material habitat development for targeted fauna species	Low	
Rehabilitation Phase – Ecosystem and Land Use Development		
Weather and climatic influences (e.g. drought; intense rainfall events; bushfire and climate change) resulting in poor vegetation survival rates or non-targeted composition of species	Medium	**Section 6.2.6**
Rehabilitation failure due to impacts of bushfire as a result of inadequate response / fuel load management	Low	
Rehabilitation failure as a result of intense snow/frost events	Medium	
Unplanned re-disturbance of established rehabilitation areas	Low	
Fauna herbivory resulting in reduced revegetation success	Low	

4.0 Rehabilitation Objectives and Rehabilitation Completion Criteria

4.1 Rehabilitation Objectives and Rehabilitation Completion Criteria

The rehabilitation objectives provided in this RMP have been submitted to and approved by RR (the approved Rehabilitation Objectives Statement is provided in **Appendix C**). The approved rehabilitation objectives summarised in **Section 4.1.1** address the requirements of Schedule 3, Conditions 29 and 31(e) of DA 344-11-2001 while the completion criteria proposed in **Section 4.1.2** address Schedule 3, Condition 31(h).

4.1.1 Rehabilitation Objectives

The approved rehabilitation objectives for the Quarry are provided in **Table 4.1** and demonstrate that the final land use domain will be returned to a condition capable of achieving the final land use (as nominated in **Section 2.3**).

Table 4.1 Rehabilitation Objectives

Final Land Use Domain	Mining Domain	Rehabilitation Objective
A – Native Ecosystem – Woodland	1 – Infrastructure Area 3 – Water Management Area 5 – Active Mining Area (Open Cut Void) 7 – Beneficiation Facility	• The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation. • The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area, including PCT 732 and 1093. • The vegetation composition of the rehabilitation contains species that are commensurate with native vegetation communities found in the local area, including PCT 732 and 1093. • Levels of ecosystem function have been established that demonstrate the rehabilitation is self-sustainable. • Impacts to groundwater regime are within range as per the pre-mining environmental assessment. • Groundwater quality is similar to or better than predicted in the pre-mining environmental assessments. • Domain is safe, non-polluting, free from any hazardous materials and contaminants, and does not pose any hazard to the community. • Stable, permanent and non-polluting landform established. • The final landform integrates with and complements the surrounding topography. • Residual waste materials will be appropriately removed or contained/encapsulated where necessary so it does not pose any hazards or constraints for intended land use. • All buildings, infrastructure and services not required for lawful final land use decommissioned and removed. • All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. Development Consent). • All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community. • Runoff water quality is similar to or better than predicted in pre-mining environmental assessments and does not present a risk of environmental harm.
F – Water Management Area	1 – Infrastructure Area	• Domain is safe, non-polluting, free from any hazardous materials and contaminants, and does not pose any hazard to the community. • Stable, permanent and non-polluting landform established. • The final landform integrates with and complements the surrounding topography.

Final Land Use Domain	Mining Domain	Rehabilitation Objective
		• All buildings, infrastructure and services not required for lawful final land use decommissioned and removed. • All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. Development Consent). • All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community. • Runoff water quality is similar to or better than predicted in pre-mining environmental assessments and does not present a risk of environmental harm.
I – Infrastructure	1 – Infrastructure Area	• Domain safe and free from hazardous materials and contaminants. • Stable, permanent and non-polluting landform established. • The final landform integrates with and complements the surrounding topography. • Site entrance and sealed access road retained. • Runoff water quality is similar to or better than predicted in pre-mining environmental assessments and does not present a risk of environmental harm.
J – Final Void	5 – Active Mining Area (Open Cut Void)	• The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation. • Impacts to groundwater regime are within range as per the pre-mining environmental assessment. • Groundwater quality is similar to or better than predicted in the pre-mining environmental assessments. • Domain is safe, non-polluting, free from any hazardous materials and contaminants, and does not pose any hazard to the community. • Stable, permanent and non-polluting landform established. • All plant decommissioned and surplus stockpiles removed. • Runoff water quality is similar to or better than predicted in pre-mining environmental assessments and does not present a risk of environmental harm. • Structures that take or divert water such as final voids, dams, levees etc. are appropriately licensed (e.g. under the Water Management Act 2000) where required. As required ensure sufficient licence shares are held in the water source(s) to account for water take.

4.1.2 Rehabilitation Completion Criteria

The completion criteria are objective target levels or values assigned to a variety of indicators which can be measured to demonstrate progress and ultimate success of rehabilitation. As such, they provide a defined end point, at which point in time rehabilitation can be deemed successful and the lease relinquishment process can proceed. The proposed rehabilitation completion criteria for the Quarry are provided in **Table 4.2**.

These completion criteria will be utilised to demonstrate achievement of the approved rehabilitation objectives. It is noted that the completion criteria may be subject to refinement as the operation progresses, including as a result of consultation with the relevant stakeholders, studies yet to be completed and continuous improvement process informed by rehabilitation monitoring results. The progress of rehabilitation against the completion criteria will be monitored and reported as required.

It is noted that the rehabilitation completion criteria for the Quarry will remain in draft until approved by RR. Walker Quarries will submit the final Rehabilitation Completion Criteria Statement to RR for approval no later than three years before rehabilitation of the whole (or identified part) of the mining area is proposed to be completed.

Table 4.2 Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Rehabilitation Objective Category	Rehabilitation Objectives (desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Justification/ Validation (evidence that the benchmark has been achieved)
Native Ecosystem **Water Management Area** **Final Void**	Infrastructure Area Water Management Area Active Mining Area (Open Cut Void) Beneficiation Facility	Removal of infrastructure	All buildings, infrastructure and services not required for lawful final land use decommissioned and removed. All plant decommissioned and surplus stockpiles removed.	Removal of all services (power, water, communications) that have been connected on the site as part of the operation.	All utility infrastructure removed.	Demolition records Before and after site photographs. Utility service disconnection record/notification.
				Heritage obligations (e.g. development consent under the Environmental Planning and Assessment Act 1979, approvals under the Heritage Act 1977, etc.) have been met (e.g. archival recording, building retention or building demolition with footings preserved). Permits and approval documents issued. All archival reports required are complete and submitted. Copy of any relevant approval documentation and archival reports/records.	Permits and approval documents issued. All archival reports required are complete and submitted.	Copy of any relevant approval documentation and archival reports/records.
				Removal of all plant, equipment and associated infrastructure not required	Infrastructure removed.	Demolition records Before and after site

Final Land Use Domain	Mining Domain	Rehabilitation Objective Category	Rehabilitation Objectives (desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Justification/ Validation (evidence that the benchmark has been achieved)
				for final land use, including processing facilities, stockpile areas, office complex and weighbridge, hydrocarbon storage facility, samples.		photographs Aerial photography (including historical imagery as relevant).
				Removal of all footings not approved for retention.	Where not retained, all concrete footings, foundation pads and pavements have been broken up and either removed, beneficially reused across the site or sold for some other beneficial reuse.	
				Removal of all water management infrastructure (including pumps, pipes and power) not required for final land use.	Infrastructure removed.	Demolition records Before and after site photographs Aerial photography (including historical imagery as relevant).
				Surveying and sealing of all drill holes and boreholes in accordance with departmental guidelines and relevant standards.	Sealing completed and verified.	Engineering report/statement. Plug and abandonment log. Before and after site photographs. As constructed drawings. Records of fill materials and concrete plugs, filling

Final Land Use Domain	Mining Domain	Rehabilitation Objective Category	Rehabilitation Objectives (desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Justification/ Validation (evidence that the benchmark has been achieved)
						methods etc.
				Monitoring equipment (e.g. piezometers, survey pegs) removed if not required.	All subsidence pegs will be appropriately removed in consultation with RR.	Records of consultation with relevant government agency. Before and after site photographs.
Native Ecosystem **Water Management Area** **Infrastructure**	Infrastructure Area Water Management Area Active Mining Area (Open Cut Void) Beneficiation Facility	Retention of infrastructure	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community. All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. Development Consent).	Potential hazards (e.g. electrical, mechanical) have been effectively isolated and secured.	Hazards isolated and secured.	Statement provided by suitably qualified engineer. Photographs.
				Damage to access tracks has been repaired and stabilised.	Repairs complete.	Visual inspections Before and after site photographs.
				Ownership and responsibility for retained access tracks is identified.	All retained infrastructure under clear ownership for appropriate post mining land use.	Correspondence from landowner regarding agreement of final land use.
				Where applicable, necessary approvals are in place (e.g.) Development Consent under the *Environmental Planning and Assessment Act 1979*) where infrastructure is to be retained as part of final land use.	Permits and approval documents issued.	Copy of any relevant approvals.

Final Land Use Domain	Mining Domain	Rehabilitation Objective Category	Rehabilitation Objectives (desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Justification/ Validation (evidence that the benchmark has been achieved)
				Heritage obligations as required under the Environmental Planning and Assessment Act 1979, Heritage Act 1977, etc.) have been met (e.g. archival recording, building retention and restoration).	Permits and approval documents issued. All archival reports required are complete and submitted.	Copy of any relevant approval documentation and archival reports/records.
				The structural integrity of the infrastructure is suitable and safe for use as part of the intended final land use.	The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use.	Engineering report/statement, photos, risk assessment verifying modes of failure are adequately addressed to minimise risks to public safety or the environment.
				Infrastructure is in a condition (e.g. structural, electrical, other hazards) that is suitable for the intended final land use.	Formal acceptance from the subsequent landowner that infrastructure is in a condition that is suitable for the intended final land use in accordance with formal agreement.	Formal acceptance from landowner.
				If any underground pipelines or other infrastructure are to remain in situ, they do not pose a hazard for the intended final land use.	The location of the infrastructure has been marked on a plan and registered with the relevant local authority (e.g. local Council) and Dial Before You Dig.	Surveyed and marked on the as-constructed final landform plan. Copy of notification to local Council and Dial Before You

Final Land Use Domain	Mining Domain	Rehabilitation Objective Category	Rehabilitation Objectives (desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Justification/ Validation (evidence that the benchmark has been achieved)
					Formal acceptance from the subsequent landowner that underground infrastructure has been left in a condition that is suitable for the intended final land use in accordance with formal agreement.	Dig. Formal acceptance from landowner. Identified on an appropriate legal instrument associated with the land title.
Native Ecosystem **Water Management Area** **Infrastructure** **Final Void**	Infrastructure Area Water Management Area Active Mining Area (Open Cut Void) Beneficiation Facility	Land contamination	Domain is safe, non-polluting, free from any hazardous materials and contaminants, and does not pose any hazard to the community.	No waste material and/or visible contamination areas on site surface.	There are no visible signs of contamination following the removal of plant, equipment and materials. All rubbish/waste materials removed from site.	Site inspections. Before and after site photographs. Contamination Assessment Reports. Groundwater/surface water monitoring reports.
				Soil testing for contaminants of concern as listed by Health Investigation Level of the National Environment Protection (Assessment of Site Contamination) Measure (1999) applicable to land use type.	Contamination will be appropriately removed, remediated or managed so that appropriate guidelines for land use are met.	Contamination Remediation Reports. Groundwater/surface water monitoring reports.

Final Land Use Domain	Mining Domain	Rehabilitation Objective Category	Rehabilitation Objectives (desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Justification/ Validation (evidence that the benchmark has been achieved)
Native Ecosystem	Infrastructure Area Water Management Area Beneficiation Facility	Management of waste and process materials.	Residual waste materials will be appropriately removed or contained/encapsulated where necessary, so it does not pose any hazards or constraints for intended land use.	Waste material on site surface have been removed.	All waste materials have been removed from site or contained where necessary.	Statement provided. Before/after photos. Waste disposal records. Groundwater/surface water monitoring reports. Contamination Remediation Reports.
Native Ecosystem **Water Management Area** **Final Void (Open Cut Void)** **Infrastructure**	Infrastructure Area Water Management Area Active Mining Area (Open Cut Void) Beneficiation Facility	Landform stability	Stable, permanent and non-polluting landform established. The final landform integrates with and complements the surrounding topography.	Visual - indicators of erosion and land instability. Measured - Survey of rehabilitated landform to verify final landform construction in accordance with Final Landform and Rehabilitation Plan. Measured - survey of rehabilitated landform to specifically monitor settlement and/or material loss via erosion.	Minimal erosion that would require moderate to significant ongoing management and maintenance. No visual signs of land instability such as mass movement. Survey verifies final landform complies with final landform construction in accordance with Final Landform and Rehabilitation Plan Erosion rate monitoring verifies that erosion levels are within the range of target analogue sites representative of final land use. High risk landforms (such as steep slopes, high walls) have been constructed in accordance with geotechnical design.	Before and after photos Site inspections Rehabilitation Monitoring Report. Survey of final landform. An engineering assessment undertaken by a suitably qualified person concludes that high risk landforms (such as steep slopes, high walls) have been constructed in accordance with geotechnical design.

Final Land Use Domain	Mining Domain	Rehabilitation Objective Category	Rehabilitation Objectives (desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Justification/ Validation (evidence that the benchmark has been achieved)
Native Ecosystem **Final Void**	Infrastructure Area Water Management Area Active Mining Area (Open Cut Void) Beneficiation Facility	Bushfire	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire controls implemented.	Statement provided and before/after photos.
Native Ecosystem **Water Management Area** **Final Void** **Infrastructure**	Infrastructure Area Water Management Area Active Mining Area (Open Cut Void) Beneficiation Facility	Surface Water	Runoff water quality is similar to or better than predicted in pre-mining environmental assessments and does not present a risk of environmental harm.	Water quality parameters in accordance with EPL.	Water quality discharged from rehabilitated mining operation meet specifications in EPL.	EPL has been relinquished by EPA. Contamination investigations.
Final Void	Active Mining Area (Open Cut Void)	Water Approvals	Structures that take or divert water such as final voids, dams, levees etc. are appropriately licensed (e.g. under the Water Management Act	Final landform considers advice from relevant Government Agency whether sufficient licence shares are available in the water source to account for	Water approvals / licences are granted by relevant NSW Government Agency.	Confirmation from relevant government agency that relevant water approvals/licences are able to be granted (e.g. copy of licence).

Final Land Use Domain	Mining Domain	Rehabilitation Objective Category	Rehabilitation Objectives (desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Justification/ Validation (evidence that the benchmark has been achieved)
			2000) where required. As required ensure sufficient licence shares are held in the water source(s) to account for water take.	water stored in voids and dams in the proposed final landform.		
Native Ecosystem Final Void	Infrastructure Area Water Management Area Active Mining (Open Cut Void) Beneficiation Facility	Groundwater	Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	Groundwater quality is within range defined by the pre-mining environmental assessment.	Groundwater levels, groundwater flow.	EPL has been relinquished by EPA. Contamination investigations. Water quality monitoring reports Independent hydrogeological assessment report.
Native Ecosystem	Infrastructure Area Water Management Area Active Mining Area (Open Cut Void)	Ecological rehabilitation	The vegetation composition of the rehabilitation contains species that are commensurate with native vegetation found in the local area, including PCT732 and 1093.	Native plant species recorded from 0.04 ha fixed monitoring plots are characteristic of those in analogue sites.	Native plant species recorded within rehabilitation areas are characteristic of the analogue sites.	Before and after photos. BAM plot data. Rehabilitation monitoring reports.

Final Land Use Domain	Mining Domain	Rehabilitation Objective Category	Rehabilitation Objectives (desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Justification/ Validation (evidence that the benchmark has been achieved)
	Beneficiation Facility		The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area, including PCT732 and 1093.	Cover and abundance of plant growth forms recorded from 0.04 ha fixed monitoring plots are characteristic of the vegetation in analogue sites, or an ongoing trend toward becoming characteristic is evident from the monitoring data.	Cover, abundance and height range of native plant growth forms are characteristic of, or trending towards, the adjacent vegetation when compared to analogue sites. The total cover and abundance scores for each growth form group is greater than or equal to that of the adjacent vegetation or has improved since baseline monitoring (where annual data is available).	Before and after photos. BAM plot data. Rehabilitation monitoring reports.
			Levels of ecosystem function have been established that demonstrate the rehabilitation is self-sustainable.	Indicators of nutrient cycling are suitable for sustaining the target vegetation community.	For large areas of rehabilitation (that justifies the use of multiple analogue sites) litter cover is within 10^{th}-90^{th} percentile variation range of analogue sites. For small areas of rehabilitation, a cover of leaf litter is present.	BAM plot data. Rehabilitation monitoring reports.
				Evidence of plant regeneration from 0.04 ha fixed monitoring plots or a walk over of the ecological rehabilitation area.	For large areas of rehabilitation that justifies the use of at least three analogue sites, the number of second-generation individuals of trees are within the 10th-90th percentile variation range of analogue sites.	BAM plot data. Rehabilitation monitoring reports.

Final Land Use Domain	Mining Domain	Rehabilitation Objective Category	Rehabilitation Objectives (desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Justification/ Validation (evidence that the benchmark has been achieved)
					For small areas of rehabilitation, evidence of second regeneration is present.	
				Cover of exotic species within fixed monitoring plots is low.	For large areas of rehabilitation that justifies the use of at least three analogue sites the foliage cover of 'high threat exotic' (HTE) weeds is within 10th-90th percentile variation range of analogue sites. For small areas of rehabilitation, cover of exotic species is less than or equal to the cover of exotic species at the analogue sites.	BAM plot data. Rehabilitation monitoring reports.
				Soil health is suitable to sustain the desired vegetation types.	Soil nutrient profile is suitable to sustain plant growth.	Soil chemistry reports (inc. lab results) for applied growth medium, or subsequent amelioration where triggered.
				Resilience demonstrated by the effects of drought and fire on composition, structure and other function attributes.	Where rehabilitation has been subjected to fire and drought, data shows composition, structure and function scores recovering similarly to analogue sites.	Rehabilitation monitoring reports. Comparison of pre- and post-fire BAM data.

Final Land Use Domain	Mining Domain	Rehabilitation Objective Category	Rehabilitation Objectives (desired features and/or characteristics of the final land use domain)	Indicator (specific attribute associated with the objective)	Rehabilitation Completion Criteria (benchmark for the indicator, based on analogue data where appropriate)	Justification/ Validation (evidence that the benchmark has been achieved)
				Threats to rehabilitation.	Vertebrate pest species presence and damage recorded at a level that does not cause significant risk to rehabilitation.	Observations during monitoring inspections (i.e., direct and indirect evidence of pest species) Fauna monitoring data Records of pest animal control activities.

4.2 Rehabilitation Objectives and Rehabilitation Completion Criteria – Stakeholder Consultation

Historically, the Quarry RMP has been incorporated into the Mining Operations Plan. The Regulation introduced new standard rehabilitation and reporting conditions on mining leases. The Regulation commenced on 2 July 2021, with a transition period to 2 July 2022. Following the transition period, Mining Operations Plans cease to exist in NSW. There were four approved versions of the Mining Operations Plan prior to it being superseded by the RMP from 2 July 2022.

During preparation of the last Mining Operations Plan/RMP, consultation was undertaken with relevant government agencies regarding their expectations for rehabilitation in accordance with the requirements for the preparation of an RMP in accordance with Schedule 3, Condition 31 of DA 344-11-2001. Further consultation was undertaken with local landholders and relevant government agencies with respect to the rehabilitation objectives and rehabilitation criteria proposed.

This RMP has been provided to relevant government agencies with feedback requested. The RMP, rehabilitation objectives and rehabilitation criteria will continue to be revised in consultation with relevant stakeholders throughout the life of the Quarry. Evidence of consultation regarding this RMP has been provided as **Appendix D**.

Table 4.3 provides a summary of the historic consultation undertaken, matters raised, and actions taken to address feedback.

Table 4.3 Stakeholder Consultation Regarding Rehabilitation

Stakeholder	Consultation Completed	Subject	Feedback Received	Response or Action
Lithgow City Council	Letter – 18 March 2020	Request for Lithgow City Council feedback regarding the Mining Operations Plan / RMP	Council advises that continued rehabilitation is important throughout the life of the quarry especially around the voids and along the front boundary of the property that has a frontage to the Great Western Highway. This is to help minimise visual impacts to the surrounding properties and public infrastructure. The final rehabilitation of the site should ensure that the disturbed areas are rehabilitated to the natural levels, prior to the quarry, as much as possible and that the land is stabilised. As such, Council considers that the RMP, that forms part of the Mining Operations Plan, adequately highlights the relevant issues and therefore has no objection to the submission of the Plan for approval in accordance with the requirements of Development Consent SSD- 344-11-2001.	The proposed Final Landform provides for profiling of the stockpile areas to replicate the slopes of the surrounding landscape (refer to **Figure 5.2**). Revegetation of an earth bund along the northern side of the Western Stockpile Area has been prioritised to provide for early visual screening of activities from the Great Western Highway.
	Letter – 30 May 2022	Rehabilitation objectives and completion criteria	Satisfied; no concerns.	No further action required (see response above).
Resources Regulator	Letter – 18 March 2020	Request for Resources Regulator feedback regarding the Mining Operations Plan / RMP	Preference to include cross-sectional plans.	Cross sections are no longer a requirement of the RMP and not included in this document.

Stakeholder	Consultation Completed	Subject	Feedback Received	Response or Action
	Letter – 30 May 2022	Rehabilitation objectives and completion criteria	No further comments.	Throughout the preparation of the RMP, and preparation and uploading of required text and spatial data, the author of the previous RMP liaised closely with RR personnel to ensure effective representation of the requirements of the *Form and Way: Rehabilitation management plan for large mines*.
	Form submission – 17 November 2023	Submission of Rehabilitation Objectives Statement for approval	Rehabilitation Objectives Statement approved (refer to **Appendix C**).	No further action required.
DPHI	Letter – 18 March 2020	Request for DPE feedback regarding the Mining Operations Plan / RMP	No requirements additional to those specified in DA 344-11-2001.	The requirements of Schedule 3, Condition 31 of DA 344-11-2001 have been reflected in the preparation of the RMP.
	Letter – 30 May 2022	Rehabilitation objectives and completion criteria	No response.	
DCCEEW – Water	Letter – 30 May 2022	Rehabilitation objectives and completion criteria	No response.	-
FCNSW	15 November 2017	Final landform and features	FCNSW opposed the retention of the Quarry site entrance and access road on state forest land in the final landform.	Retention of the site entrance and a portion of the access road is proposed to allow access to the essential electrical infrastructure and for future monitoring/maintenance of rehabilitation/bushfire management. Walker Quarries has committed to the removal of the majority of access roads and other infrastructure on ML 1633 in keeping with FCNSW's request and has committed to provide appropriate assistance to FCNSW should it wish to close the site entrance post-development/relinquishment.

Stakeholder	Consultation Completed	Subject	Feedback Received	Response or Action
			FCNSW opposed an open cut void being retained.	The retention of a final void is unavoidable and approved by DA 344-11-2001. Notwithstanding, Walker Quarries will ensure the final landform is safe, stable and non-polluting with vegetation established where possible to minimise the visual impact of the landform.
			FCNSW opposes the former Hoskins Quarry being left in the form it was prior to commencement of operations.	The Hoskins Quarry will eventually be backfilled and incorporated into a profiled section of the Quarry Site at an elevation of between 925 m and 930 m AHD.
			FCNSW opposes the main (or any) water storages of the Quarry Site to be retained.	Walker Quarries has provided for the decommissioning and backfilling of these structures in the final landform.
	Letter – 8 April 2020	Request for FCNSW feedback regarding the Mining Operations Plan / RMP	FCNSW requests the current Mining Operations Plan is prepared consistent with the information on rehabilitation presented in the Statement of Environmental Effects which accompanied the most recent application to Modify DA 344-11-2001 (Umwelt, 2019).	Noted.
	Letter – 30 May 2022	RMP rehabilitation objectives and criteria	Maintains opposition to retaining the quarry site entrance and access road infrastructure within State Forest boundaries.	Retention of the site entrance and a portion of the access road is proposed to allow access to the essential electrical infrastructure and ongoing maintenance/monitoring of rehabilitation/bushfire management. Walker Quarries has committed to removal of the majority of access roads and other infrastructure in keeping with FCNSW's request and has committed to provide appropriate assistance to FCNSW should it wish to close the site entrance post-development/relinquishment.

Stakeholder	Consultation Completed	Subject	Feedback Received	Response or Action
			Maintains opposition to retaining any water storages.	This has been acknowledged and rehabilitation provides for the backfilling and removal of all water storages in the final landform (refer to **Figure 5.1**).
			Requests all infrastructure be decommissioned.	This has been acknowledged and rehabilitation provides for removal of all infrastructure, excluding the site entrance.
			Requests details from Walker Quarries regarding ongoing responsibility and liability for void fencing and lockable gate installed. FCNSW does not accept responsibility and welcomes investigations into alternative final void landform angles and stability removing the requirement to fence off the area.	The retention of a final void is unavoidable and approved by DA 344-11-2001. Notwithstanding, Walker Quarries will ensure the final landform is safe, stable and non-polluting with vegetation established where possible to minimise the visual impact of the landform.
			Requests information regarding weed management throughout rehabilitation and beyond relinquishment.	Weed control activities are included in the RMP and reporting of activities presented in the Annual Review, which is made publicly available on the Walker Quarries website.
Community Consultative Committee (CCC) Members	Letter – 30 May 2022	RMP rehabilitation objectives and criteria	No responses	-
DPHI – Crown Lands	Letter – 30 May 2022	RMP rehabilitation objectives and criteria	Feedback initially received indicating a response would be provided by 1 July 2022. No further correspondence received	It is noted Walker Quarries holds Licence No. 598097 for occupation within Crown Lands and a compensation agreement for any works completed within Lot 7322 DP1149335.

Stakeholder	Consultation Completed	Subject	Feedback Received	Response or Action
BCD	Letter – 18 March 2020	Request for BCD requirements or Recommendations for the Mining Operations Plan / RMP	Delineation of the site into appropriate management zones, development of an appropriate monitoring program, creation of KPIs that link into that monitoring plan, and development of a TARP to ensure that the KPIs are met.	**Section 2.4** outlines how the Quarry has been delineated into management zones (domains), while **Table 4.1** and **Table 4.2** provide the rehabilitation objectives, and completion criteria (KPIs). Monitoring has been outlined within **Section 8.0** and a TARP has been provided in **Section 10.0** .
			Where a management zone requires "active" management (e.g. revegetation) ensure that KPIs are developed for relevant timeframes (e.g. 2, 5, 10, 15 years etc) so that the expected ecological trajectory can be monitored and relevant response actions can be implemented where the KPIs are not met.	Performance Criteria are included in **Table 4.2**, monitoring described in **Section 8.0** an intervention and adaptive management descried in **Section 10.0**. Monitoring in accordance with the BAM will ensure rehabilitation of varying ages in on a suitable trajectory, or the TARP will be implemented.

5.0 Final Landform and Rehabilitation Plan

In accordance with the requirements of the *Form and Way: Rehabilitation Management Plan for Large Mines*, Final Landform and Rehabilitation Plans have been prepared to show the proposed final land use and final landform at the end of Quarry life. The Final Landform and Rehabilitation Plans were approved by RR on 20 November 2023 and are provided as **Figure 5.1** and **Figure 5.2.** During assessment of the Final Landform and Rehabilitation Plans by RR, ML 1864 and ML 1865 were approved triggering revisions to the approved Final Landform and Rehabilitation Plans. Copies of the proposed plans are provided as **Figure 5.3** and **Figure 5.4**. These plans are consistent with DA 344-11-2001 and subject to approval by RR.

umwelt

227500 228000 228500

6296500

LOT 7071 DP1201227

LOT 7 DP872230

LOT 3 DP872230

LOT 6 DP872230

LOT 2 DP872230

GREAT WESTERN HIGHWAY

Retained Drainage Line

Fence Line

Buried Pipe Culvert

Retained Drainage Line

MLA570

Fluctuating Waterbody (870-875m AHD)

COKS RIVER

Rock-lined Spillway

LOT 7071 DP1201227

Retained Drainage Line

ML1633

LOT 7322 DP1149335

MLA570

6294000

Legend

- Quarry Site - DA 344-11-2001
- Quarry Site ML Extension
- Property Boundaries
- Road Corridors
- Major Road
- Watercourses
- P Electricity Transmission Lines

Final Landuse Domain

- Final Void
- Infrastructure
- Native Ecosystem
- Water Management Areas
- Final Landform Features

MINE NAME: WALLERAWANG QUARRY
TITLE HOLDER: WALKER QUARRIES PTY LTD
PREPARED BY: UMWELT PTY LTD
DATE PREPARED: 12/02/2024

FIGURE 5.1

Approved Final Landform Features

Scale 1:4500 at A3

0 250 500 Metres

GDA 1994 MGA Zone 56

Image Source: ESRI Basemaps (2020) Data source: NSW DFSI (2020); Geoscience Australia (2020); Walker Quarries (2020)

Note: Extraction is currently approved to 901m AHD which is estimated to occur in 2035. Relinquishment is anticipated to be 5 years after resource is exhausted to that depth (2040). Anticipated year of relinquishment - 2045

umwelt

227500 228000 228500

6296500

GREAT WESTERN HIGHWAY

COXS RIVER

LOT 7071 DP1201227

LOT 7 DP872230

LOT 6 DP872230

LOT 5 DP872230

LOT 2 DP872230

LOT 7071 DP1201227

LOT 7824 DP1149535

MLA570

ML1633

ML1570

Legend

- Quarry Site - DA 344-11-2001
- Quarry Site ML Extension
- Property Boundaries
- Road Corridors
- Major Road
- Watercourses
- P Electricity Transmission Lines

Scale 1:4500 at A3

0 250 500 Metres

GDA 1994 MGA Zone 56

MINE NAME:	WALLERAWANG QUARRY
TITLE HOLDER:	WALKER QUARRIES PTY LTD
PREPARED BY:	UMWELT PTY LTD
DATE PREPARED:	12/02/2024

FIGURE 5.2

Approved Final Landform Contours

Image Source: ESRI Basemaps (2020) Data source: NSW DFSI (2020); Geoscience Australia (2020); Walker Quarries (2020)

Note: Extraction is currently approved to 901m AHD which is estimated to occur in 2035. Relinquishment is anticipated to be 5 years after resource is exhausted to that depth (2040). Anticipated year of relinquishment - 2045

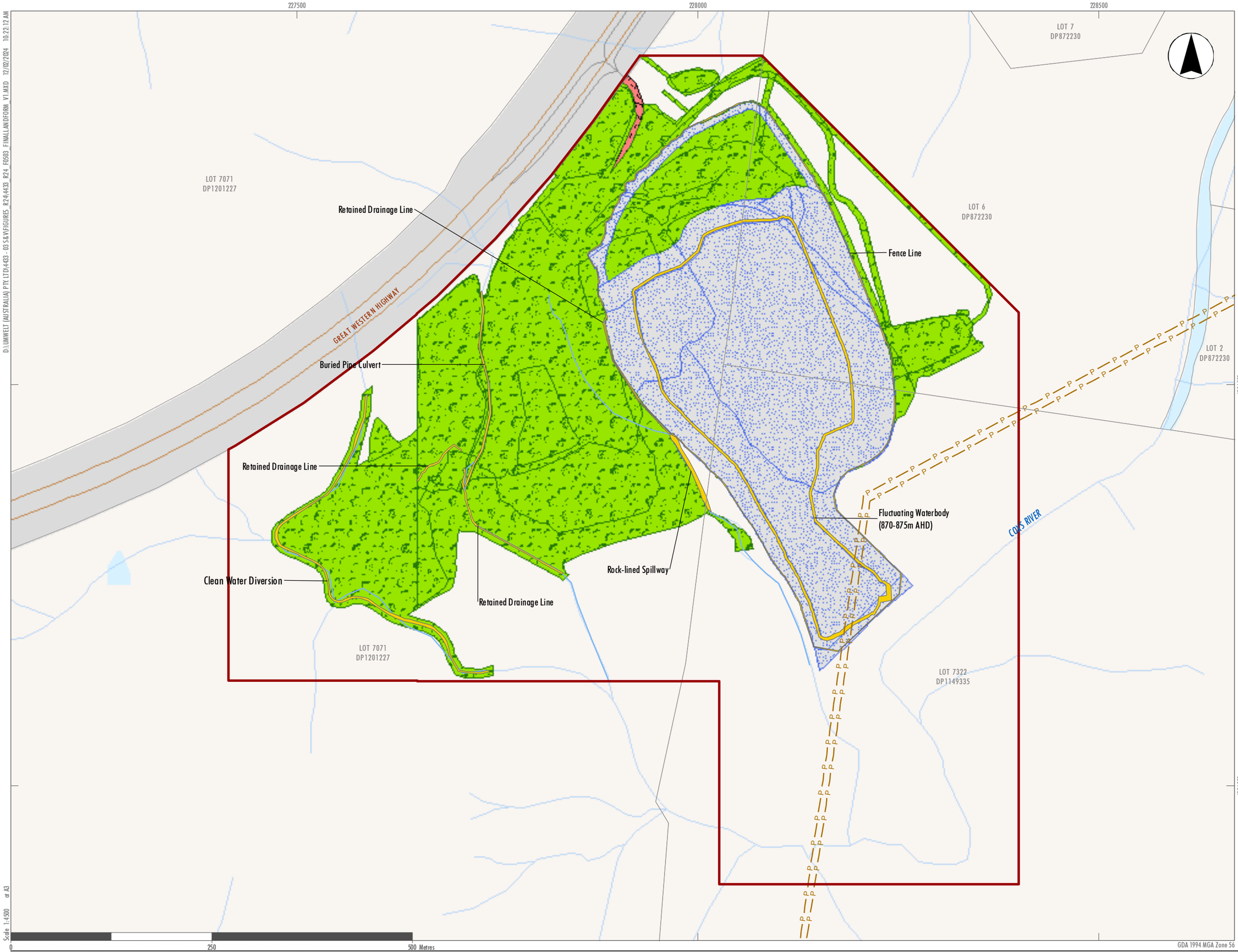
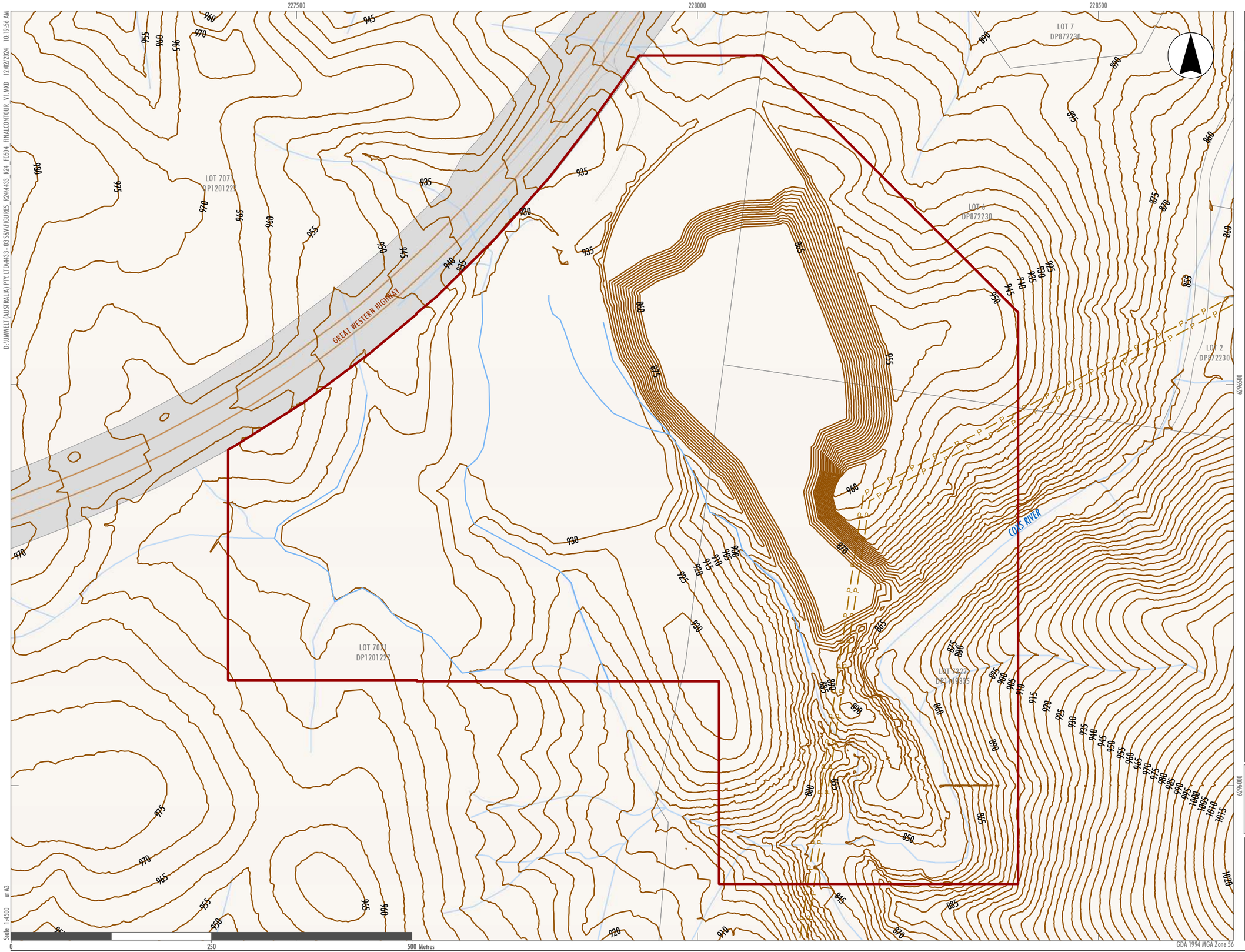


Image Source: ESRI Basemaps (2020) Data source: NSW DFSI (2020); Geoscience Australia (2020); Walker Quarries (2020)

Note: Extraction is currently approved to 901m AHD which is estimated to occur in 2035. Relinquishment is anticipated to be 5 years after resource is exhausted to that depth (2040). Anticipated year of relinquishment - 2045



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Scale 1:4500 at A3

Legend

- Quarry Site - DA 344-11-2001
- Watercourses
- Property Boundaries
- Road Corridors
- Electricity Transmission Lines
- Final Landform Contours

MINE NAME: WALLERAWANG QUARRY
TITLE HOLDER: WALKER QUARRIES PTY LTD
PREPARED BY: UMWELT PTY LTD
DATE PREPARED: 12/02/2024

FIGURE 5.4

Proposed Final Landform Contour

Image Source: ESRI Basemaps (2020) Data source: NSW DFSI (2020); Geoscience Australia (2020); Walker Quarries (2020)

Note: Extraction is currently approved to 901m AHD which is estimated to occur in 2035. Relinquishment is anticipated to be 5 years after resource is exhausted to that depth (2040). Anticipated year of relinquishment - 2045

6.0 Rehabilitation Implementation

6.1 Life of Mine Rehabilitation Schedule

Mining activities are approved at the Quarry until July 2040 and this section describes a life of mine rehabilitation schedule for mining to July 2040 and any activities required following the cessation of operations. It is noted mining to 901 m AHD by July 2040 requires close to maximum production for the remaining term which is provided for in the rehabilitation schedule. Should production levels fall below the levels required to complete mining by July 2040, the RMP and life of mine rehabilitation schedule will be revised. Changes to scheduling will be reflected in the Annual Rehabilitation Report and Forward Program.

As far as practicable, disturbed areas at the Quarry will be progressively or temporarily rehabilitated following the cessation of the relevant activities. The Quarry will remain a very 'static' site with respect to the disturbance footprint for many years with minimal areas available for rehabilitation until close to the cessation of quarrying. The indicative mining and rehabilitation progression, from the commencement of this RMP (Snapshot of current disturbance at the end of 2023) until the cessation of mining (Year 2040) is provided in **Figure 6.1** to **Figure 6.5**.Future rehabilitation will be undertaken to achieve the final landform in **Figure 5.1** and **Figure 5.2**.

This schedule demonstrates that Walker Quarries has:

- Considered rehabilitation in the development of the mine plan.
- Sought to maximise opportunities for progressive and temporary rehabilitation throughout the planning process, where possible.
- Identified the timing of key decommissioning and landform construction activities to inform scheduling of technical studies, rehabilitation trials or research programs required to achieve the final land use(s).

The key assumptions and principles to achieving the rehabilitation schedule are:

- A void with a maximum depth of 860 m AHD would remain as part of the final landform. A waste rock or earth barrier at least 1 m high would be constructed around the perimeter of the void and a safety fence will also be installed.
- Collection and retention of rehabilitation materials which may include topsoil, subsoil, biomass for future use.
- Noting that future landform modification is proposed closer to Quarry completion, batter slopes and bund walls surrounding stockpile areas and water management features will be stabilised and vegetated to reduce erosion, dust emissions and improve the visual amenity of the Quarry.
- Disturbed areas will be progressively rehabilitated once they are no longer required for operations.

To ensure success across all phases of rehabilitation and life of mine rehabilitation schedule, Walker Quarries will ensure that rehabilitation personnel are sufficiently skilled and experienced (including engaging rehabilitation consultants), that rehabilitation responsibilities are clearly defined within the organisation on an annual basis to ensure appropriate rehabilitation activities occur, and by ensuring organisational continuity is achieved to maximise the effectiveness of rehabilitation.

228000

LOT 7
DP872230

LOT 7071
DP1201227

GREAT WESTERN HIGHWAY

LOT 6
DP872230

LOT 2
DP872230

LOT 7071
DP1201227

LOT 7322
DP1149335

6296000

Legend

- Quarry Site - DA 344-11-2001
- Approved Limit of Extraction Area
- Watercourses
- Major Roads
- Property Boundaries
- Road Corridors
- Electricity Transmission Lines

Mining Domain Type

- Beneficiation Facility
- Infrastructure Area
- Active Mining Area (Open cut
- Water Management Area

Rehabilitation Phase

- Ecosystem and Land Use Establishment

MINE NAME: WALLERAWANG QUARRY
TITLE HOLDER: WALKER QUARRIES PTY LTD
PREPARED BY: UMWELT PTY LTD
DATE PREPARED: 13/12/2023

FIGURE 6.1

Current Mining and Rehabilitation

Scale 1:4500 at A3

0 250 500 Metres

GDA 1994 MGA Zone 56

Image Source: Nearmap (2023) Data source: NSW DFSI (2020); Geoscience Australia (2020); Walker Quarries (2020)

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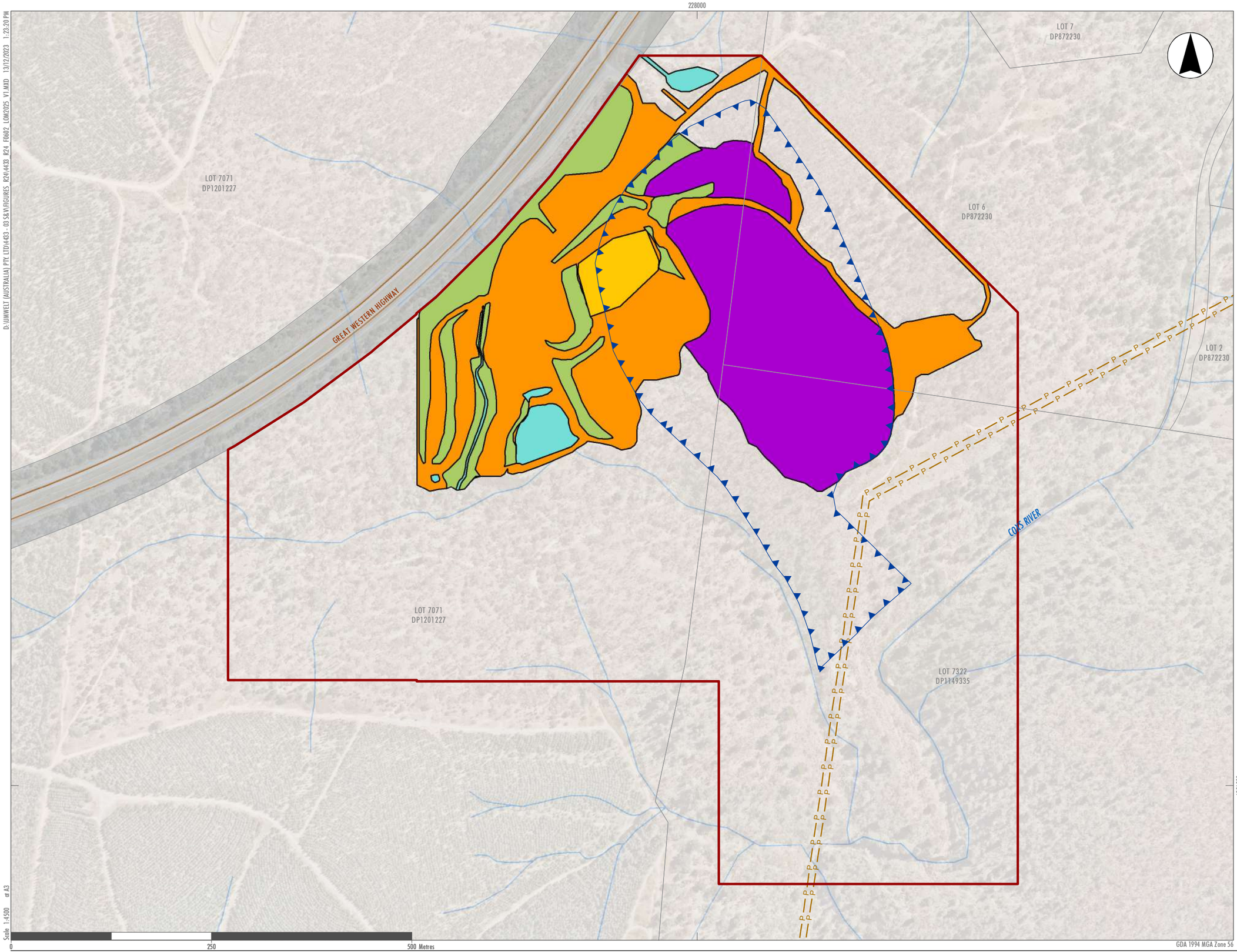

Legend

- Quarry Site - DA 344-11-2001
- Approved Limit of Extraction
- Watercourses
- Major Roads
- Property Boundaries
- Road Corridors
- Electricity Transmission Lines

Rehabilitation Phase

- Ecosystem and Land Use Establishment

Mining Domain Type

- Beneficiation Facility
- Infrastructure
- Active Mining Area (Open cut
- Water Management

MINE NAME: WALLERAWANG QUARRY
TITLE HOLDER: WALKER QUARRIES PTY LTD
PREPARED BY: UMWELT PTY LTD
DATE PREPARED: 13/12/2023

FIGURE 6.2

Life of Mine Rehabilitation Schedule 2025

Scale 1:4500 at A3

0 250 500 Metres

GDA 1994 MGA Zone 56

Image Source: Nearmap (2023) Data source: NSW DFSI (2020); Geoscience Australia (2020); Walker Quarries (2020)

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228000

6296000

LOT 7071
DP1201227

LOT 7
DP872230

LOT 6
DP872230

LOT 2
DP872230

LOT 7322
DP1149335

GREAT WESTERN HIGHWAY

COX'S RIVER

Legend

- Quarry Site - DA 344-11-2001
- Approved Limit of Extraction
- Watercourses
- Major Roads
- Property Boundaries
- Road Corridors
- P Electricity Transmission Lines

Rehabilitation Phase

- Ecosystem and Land Use Establishment

Mining Domain Type

- Beneficiation Facility
- Infrastructure
- Active Mining Area (Open cut
- Water Management

MINE NAME: WALLERAWANG QUARRY
TITLE HOLDER: WALKER QUARRIES PTY LTD
PREPARED BY: UMWELT PTY LTD
DATE PREPARED: 13/12/2023

FIGURE 6.3

Life of Mine Rehabilitation Schedule 2030

Scale 1:4,500 at A3

0 250 500 Metres

GDA 1994 MGA Zone 56

Image Source: Nearmap (2023) Data source: NSW DFSI (2020); Geoscience Australia (2020); Walker Quarries (2020)

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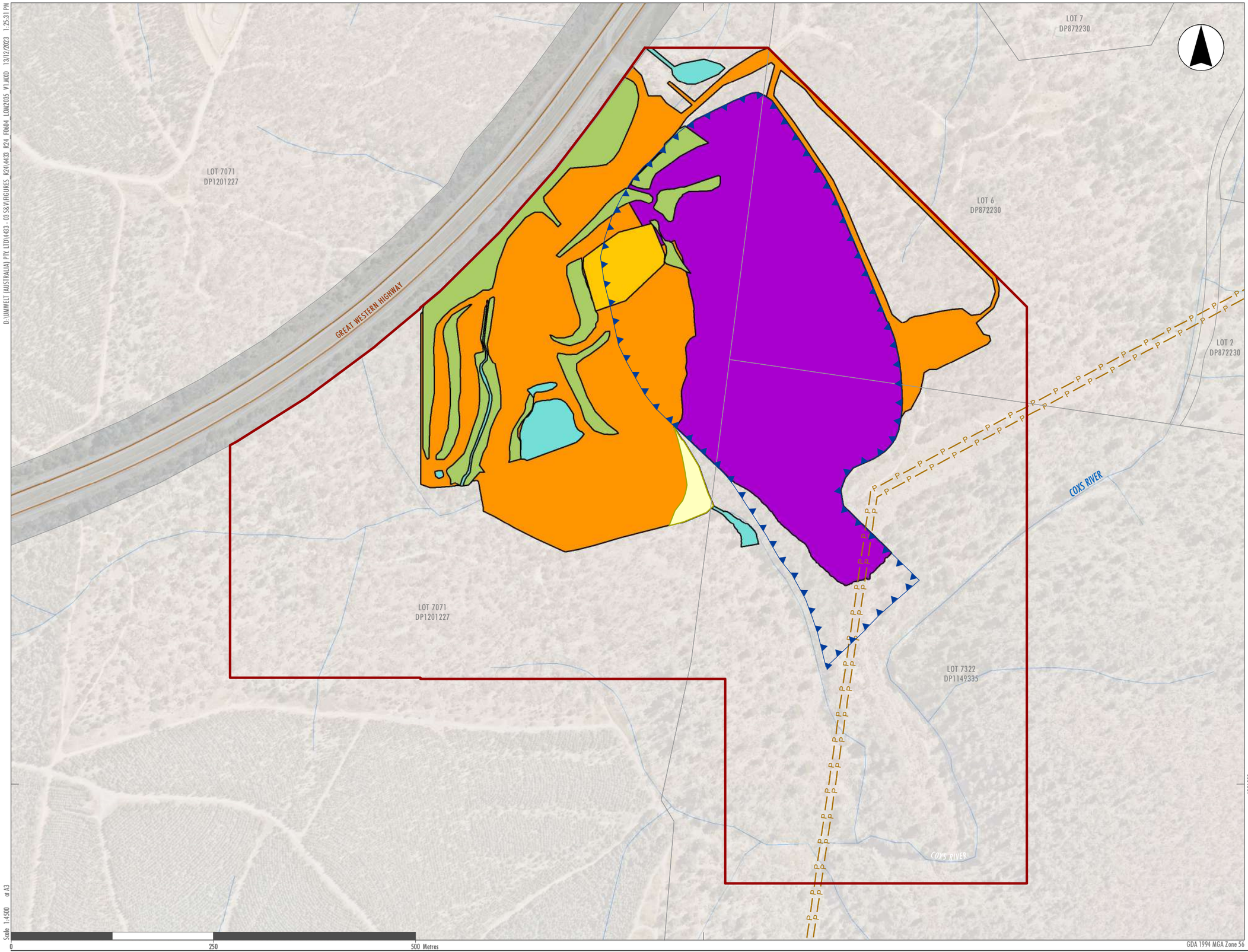

Legend

- Quarry Site - DA 344-11-2001
- Approved Limit of Extraction Area
- Watercourses
- Major Roads
- Property Boundaries
- Road Corridors
- Electricity Transmission Lines

Rehabilitation Phase

- Ecosystem and Land Use Establishment
- Landform Establishment

Mining Domain Type

- Beneficiation Facility
- Infrastructure Area
- Active Mining Area (Open cut
- Water Management Area

Scale 1:4500 at A3

Image Source: Nearmap (2023) Data source: NSW DFSI (2020); Geoscience Australia (2020); Walker Quarries (2020)

MINE NAME: WALLERAWANG QUARRY
TITLE HOLDER: WALKER QUARRIES PTY LTD
PREPARED BY: UMWELT PTY LTD
DATE PREPARED: 13/12/2023

FIGURE 6.4

Life of Mine Rehabilitation Schedule 2035

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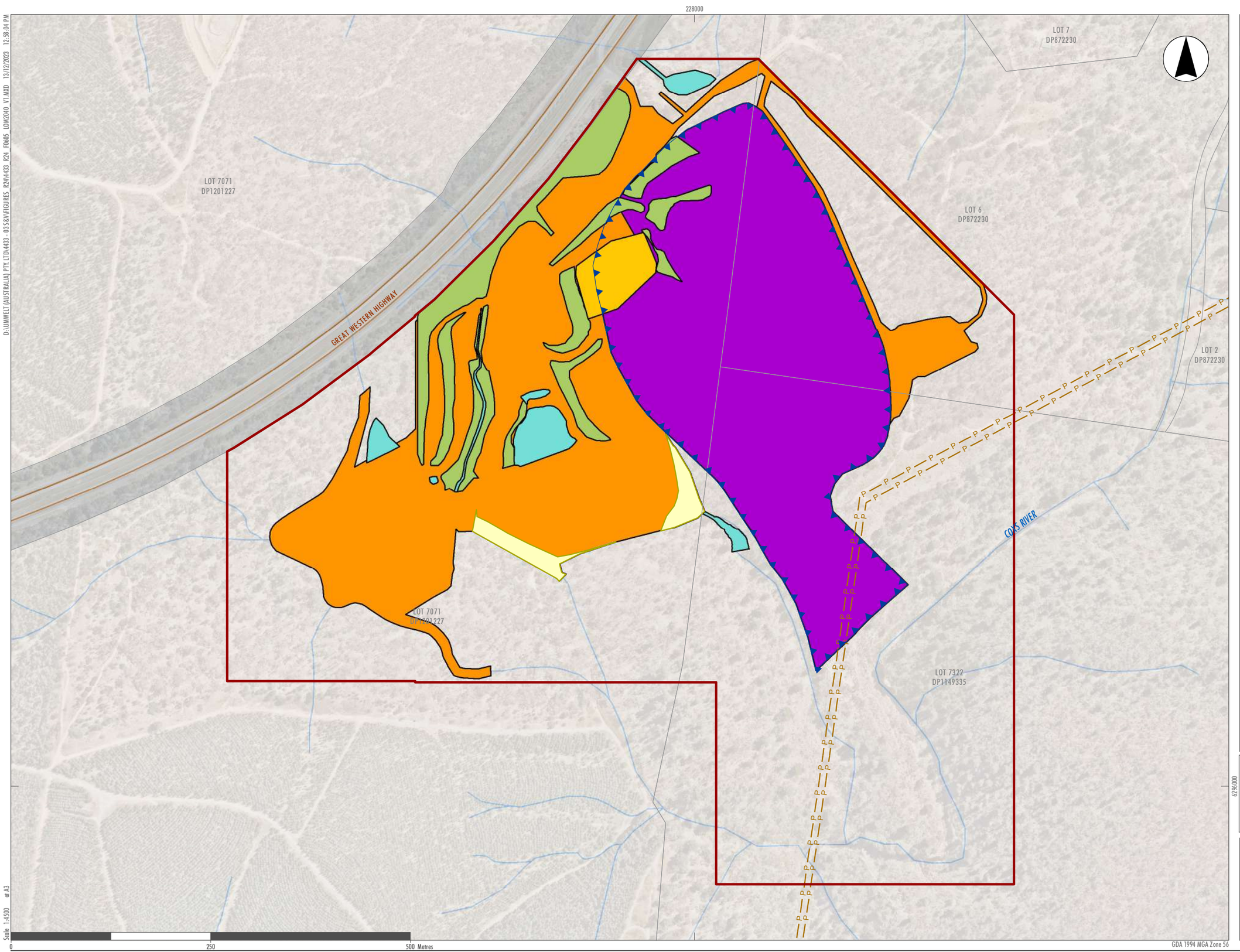


Legend

- Quarry Site - DA 344-11-2001
- Approved Limit of Extraction Area
- Watercourses
- Major Roads
- Property Boundaries
- Road Corridors
- Electricity Transmission Lines

Rehabilitation Phase

- Ecosystem and Land Use Establishment
- Landform Establishment

Mining Domain Type

- Beneficiation Facility
- Infrastructure Area
- Active Mining Area (Open cut
- Water Management Area

MINE NAME: WALLERAWANG QUARRY
TITLE HOLDER: WALKER QUARRIES PTY LTD
PREPARED BY: UMWELT PTY LTD
DATE PREPARED: 13/12/2023

FIGURE 6.5

Life of Mine Rehabilitation Schedule 2040

Scale 1:4500 at A3

0 250 500 Metres

GDA 1994 MGA Zone 56

Image Source: Nearmap (2023) Data source: NSW DFSI (2020); Geoscience Australia (2020); Walker Quarries (2020)

6.2 Phases of Rehabilitation and General Methodologies

With the exception of the retained void and access road, the final land use of the Quarry is proposed as Native Ecosystem. **Table 6.1** presents a description of the rehabilitation phases associated with this final land use.

Table 6.1 Phases of Rehabilitation - Native Ecosystems

Rehabilitation Phase	Description
Active Mining	Activities undertaken as part of active mining that are associated with rehabilitation include: • Topsoil management. • Flora and fauna management. • Final landform construction. • Erosion and sediment control. • Biological resource management. • Exploration activities.
Decommissioning	This includes ongoing site security; the removal of infrastructure including hardstand and laydown areas, plant, equipment, buildings and other structures; management and removal of contaminated and hazardous materials; and removal of any water storages/water management systems not required in the final landform.
Landform Establishment	This phase of rehabilitation consists of the processes and activities required to construct the approved final landform. In addition to profiling the surface of rehabilitation areas to the approved final landform profile, this phase may include works to construct surface water drainage features and prepare a substrate with the desired physical and chemical characteristics (that is, rock raking or ameliorating sodic materials).
Growth Medium Development	This phase of rehabilitation consists of activities required to establish the physical, chemical and biological components of the substrate required to establish the desired vegetation community (including short-lived pioneer species) to ensure achievement of the approved or, if not yet approved, the proposed: • Rehabilitation objectives. • Rehabilitation completion criteria. • Final landform and rehabilitation plan. This phase may include spreading the prepared landform with topsoil and/or subsoil and/or soil substitutes, applying soil ameliorants to enhance the physical, chemical and biological characteristics of the growth media, and actions to minimise loss of growth media due to erosion.
Ecosystem and Land Use Establishment	This phase of rehabilitation consists of the processes to establish the final land use following construction of the final landform. For vegetated land uses this rehabilitation phase includes establishing the desired vegetation community and implementing land management activities such as weed control.

Rehabilitation Phase	Description
Ecosystem and Land Use Development	This phase of rehabilitation consists of the activities to manage maturing rehabilitation areas on a trajectory to achieving the approved or, if not yet approved, the proposed: • Rehabilitation objectives. • Rehabilitation completion criteria. • Final landform and rehabilitation plan. For vegetated land uses this phase may include processes to develop characteristics of functional self-sustaining ecosystems, such as nutrient recycling, vegetation flowering and reproduction, and increasing habitat complexity, and development of a productive, self-sustaining soil profile. This phase of rehabilitation may include specific vegetation management strategies and maintenance such as tree thinning, supplementary plantings and weed management.
Rehabilitation Completion (Sign-Off)	The final phase of rehabilitation when a rehabilitation area has achieved the final land use for the mining area: • As stated in the approved rehabilitation objectives and the approved rehabilitation completion criteria. • As spatially depicted in the approved final landform and rehabilitation plan.

6.2.1 Active Mining Phase

The following sections provide a summary of how the key aspects of the active mining phase of rehabilitation are managed at the Quarry.

a. Soils and Other Rehabilitation Materials

Clearing and stripping will be implemented in accordance with the following principles:

- Where horizons are distinguishable between topsoil and subsoil, these would be stripped and stockpiled separately.
- In particular, care will be taken to ensure that subsoil clays are not removed with the topsoil (as this material is dispersive and will reduce the quality of material available for rehabilitation activities). However, inspection of soil profiles available along internal road cuttings suggests the soil layer is relatively thin (<300 mm) with limited differentiation between upper topsoil and lower subsoil layers.
- The soil will either be stockpiled beyond the extent of active quarry operations or loaded into trucks and emplaced directly onto areas being rehabilitated.
- Care will be taken when forming stockpiles that the material is not overly compacted through the manual application process or by equipment driving over the stockpiles.
- Where the soil is not expected to be utilised for 3 months, the surface will be revegetated with a groundcover species to stabilize the surface, retain nutrients and limit erosion from the stockpiles.
- Timber, logs, rocks and other vegetative matter from the stripping operations will be stockpiled separately for future use in rehabilitation.

A soil inventory will be maintained as part of the Annual Rehabilitation Report to compare soil replacement requirements with available soil resources on the Quarry Site. The volume of soil/growth media required for rehabilitation has been outlined in **Section 6.2.4** and is based on the following assumption:

- A minimum 100 mm of soil or suitable substitutes is applied to areas requiring rehabilitation using species commensurate with adjacent woodland communities.

b. Flora

Walker Quarries implement an approved *Biodiversity Management Plan* (BMP) which includes measures for managing threatened species, seed collection, weed control and habitat management. These management measures are implemented to:

- Ensure that remnant vegetation within the Quarry Site is documented, suitably protected and maintained.
- Reduce risks to bushland adjacent to the Quarry Site, as much as practicable.
- Outline relevant management of resources to be used during rehabilitation.
- Minimise potential impacts to native flora and fauna as a result of quarry operations.

The following documents the key management measures contained within this plan which have the potential to influence the relative success of rehabilitation of the Quarry.

<u>Vegetation Clearing</u>

- Where practicable, clearing of vegetation is undertaken during Autumn to avoid periods of high bird nesting and breeding.
- A vegetation clearing protocol is followed.
- Site Preparation:
    - The area of clearing will be identified and entry/exit points and laydown areas for equipment nominated and marked.
    - Limits to clearing will be identified by survey markers, painted ground or flagging tape.
    - The Mine Manager (or delegate) will inspect and confirm the location as correct. The inspection will confirm that survey markers, paint or tape is clearly visible from both possible directions of development.
- Pre-Clearance Inspections:
    - A qualified ecologist will be engaged to review the proposed area of clearing and determine whether threatened species or habitat trees are present.
    - If threatened species are identified, and cannot be relocated, clearing will not commence until the animal can be relocated or relocates naturally.

  - If habitat trees are identified, these will be inspected (unless impractical) for the presence of threatened arboreal species. Any habitat trees identified within the approved disturbance footprint will be retained for future use in rehabilitation.
  - Relocation will only be undertaken under the guidance of a qualified and licensed ecologist.

- Clearing Operations:
  - Soil and subsoil will be removed and used/stockpiled separately. Where possible topsoil and subsoil will be directly transferred onto rehabilitation areas (subsoil placed first, followed by topsoil). This approach will maximise the opportunity for retention of the natural seed stock, and thereby maximise the revegetation of the final landform with endemic species.
  - Trees within the approved disturbance footprint will be carefully felled in accordance with the BMP.
  - If native arboreal species are detected, a 10 m buffer will be established around the tree and it will be left overnight to allow to animal to vacate the tree.
- Post-clearing Management:
  - A post clearing survey of the cleared vegetation will be undertaken to determine if further species need relocating.
    - Hollows will be checked at the end of the process for wildlife.
    - Walker Quarries will avoid leaving trees on ground unmanaged for more than two weeks as these would quickly become habitat for hollow dependent species.
  - Where fauna remains or is captured during vegetation clearing the animal will be released into nearby native vegetation where it is considered safe.
  - Should clearing activities result in injury to any native fauna species, the local WIRES organisation or a suitable alternative will be contacted immediately for assistance.

<u>Collecting or Purchase of Seed</u>

Options for revegetation from seed include:

- Where possible, stripped topsoil/subsoil will be directly emplaced onto the proposed rehabilitation area. This allows the reestablishment of endemic species, able to withstand the harsh climate of the area. This will be complimented with the use of native woodland seed.
- Where it is not possible to directly emplace topsoil/subsoil onto the proposed rehabilitation area, collected or purchased seed will be used. Collecting and propagation of naturally occurring seed is preferable, however purchased seed may be used where required.

All seed will be commensurate with adjacent woodland vegetation. Rehabilitation will include the use of short-lived annual exotic non-invasive grass species (such as shirohie millet in the Spring and Summer, and oats/barley/wheat in the Autumn and Winter).

Tubestock Planting

Tubestock propagated from endemic seed are planted where quick establishment of trees and shrubs is required, e.g. on bunds to screen views of the Quarry. However, tubestock will generally be used for infill planting where native woodland seed establishment is limited. Tubestock planting and establishment will include:

- Rip lines are made along the contour where access by machinery is available. These provide for easier planting and also increase the capture of runoff and stabilize the land and prevent sheet or channel erosion.
- Tubestock area is planted with water crystals and fertiliser to increase the success of the plantings:
    - Water crystals become wet and expand, keeping water at the roots of the plants, ready to be utilised for growth.
    - The fertiliser used will be suitable for native plants and with consideration of the soil properties.

Erosion Control Product Application

On steeper slopes, hydromulch or suitable alternative (e.g. polymer, straw mulch) will be applied as soon as practicable following topsoil application to minimise erosion until groundcover can establish.

Cleared Vegetation Management

Large landscape features such as major tree trunks, major tree limbs and large boulders, will be stockpiled and used in rehabilitation activities. This material will be used to create habitat with structural complexity and encourage species into the rehabilitated areas.

Larger materials surplus to these requirements will be track rolled and stockpiled for future placement over final surfaces of the Quarry which have been covered with soil or other growth media.

Mulching of branches and smaller tree limbs will be undertaken in preference to stockpiling. This material will be used in rehabilitation, with care taken to avoid excessive application that may hinder plant development.

Remnant Native Vegetation Management

Walker Quarries maintains as much native vegetation as possible on the Quarry Site and includes measures within the approved BMP to manage those areas not required for mining or related operations as part of a Conservation Biodiversity Management Area.

c. Fauna

Walker Quarries has processes in place to assist in the management of fauna, which include:

- Clearance activities to minimise the impact to fauna would be in accordance with the process described in the BMP.
- Weed and pest animal management, including spraying and targeted removal of weed species and baiting/trapping of feral pest species, as required.

- Salvage of habitat trees and other materials for future habitat construction where possible.
- Ecological surveys (pre-clearance, clearance, post-establishment of rehabilitation).

During any clearance works, the salvage of habitat resources including hollow bearing trees, hollow logs and ground timber will be undertaken. This material will be stockpiled or relocated for use in rehabilitation areas. The salvaged material will be utilised to increase the habitat complexity on the final landforms, making them more habitable for native species, including key threatened species.

Purple Copper Butterfly Management

One threatened fauna species, Purple (or Bathurst) Copper Butterfly (*Paralucia spinifera*) has been previously identified on the Quarry Site with key habitat remaining within both areas proposed to be disturbed as well as within the Conservation Biodiversity Management Area.

Annual targeted surveys are undertaken within the Quarry Site to locate potential resident populations of Purple Copper Butterfly. The surveys have focused on remnant patches of native Blackthorn (*Bursaria spinosa ssp lasiophylla*) which is a known food source for the Purple Copper Butterfly. No examples of the Purple Copper Butterfly have been identified to date (Ecoplanning, 2023).

Management of the species will be directed towards protection of the Blackthorn. The following measures will be implemented to protect, conserve and re-establish Blackthorn within the Quarry Site:

- Operations will, where possible, be designed to avoid the removal of Blackthorn (although it is noted that over the term of approved operations several stands of Blackthorn will be impacted).
- Existing Blackthorn populations are marked so the site personnel will be able easily identify the species and avoid contact or unnecessary removal.
- Targeted monitoring of the Blackthorn and Purple Copper Butterfly will be undertaken by a qualified ecologist on an annual basis.

Blackthorn populations will be included in revegetation activities associated with progressive rehabilitation of the Quarry Site. A suitably qualified person will be commissioned to provide advice on establishment of the Blackthorn within rehabilitation to encourage development of suitable habitat for the Purple Copper Butterfly.**Rock/Overburden Emplacement**

Non-quartzite rock mined either as overburden to allow for access to the quartzite layer below (predominantly hornfels and shale), or as distinct layers/lenses through the main quartzite (occurring primarily as sandstone, meta-sandstone and shale) will be temporarily stockpiled within the extraction area before being disposed of in the following order of priority:

- Sold as select fill or other construction/landscaping/drainage material or blended with quartzite to produce specialty road building or construction materials.
- Used for maintaining roads and other infrastructure features such as bunds and drains over the Quarry Site.
- Used for the construction of additional stockpile areas:

- Southern Stockpile Area: in the gully to the south of the current Main Stockpile Area and SD1.
- Main Stockpile Area lift: progressive increase in elevation of the Main Stockpile Area.

e. Waste Management

Waste disposal practices have been designed to minimise the likelihood of environmental contamination and impacts to rehabilitation, as described in **Table 6.2**.

Table 6.2 Non-Production Waste Management

Waste Type	Storage/Management	Removal/Disposal
General waste (including food scraps)	Covered bins or skips located within lunchrooms, offices, outside workshops and elsewhere as required. Where these bins are located in open areas, they are fitted with animal proof lids.	Collected on a regular basis by a licensed contractor and transported to an appropriately licensed facility.
General Recyclables	Covered bins or skips located within lunchrooms, offices, outside workshops and elsewhere as required. Where these bins are located in open areas, they are fitted with animal proof lids.	Collected on a regular basis by a licensed contractor and transported to an appropriately licensed facility for recycling.
Waste Oils and Greases	Placed within bunded tank(s) within the workshop area. Where required, smaller, temporary storage containers may be positioned close to work areas, with the contents of those containers transferred to a larger storage tank prior to collection.	Collected on a regular basis by a licensed contractor and transported to an appropriately licensed facility for recycling.
Tyres	Placed within a marked used tyre storage area until removed from site or used for another purpose.	Tyres may be re-used on the Quarry Site for construction of retaining walls, erosion protection, traffic control etc. These tyres, and others not used, are disposed of to a licensed waste management facility or a third party approved to recycle tyres.
Scrap Metal	Stored in a specified area within the workshop area or elsewhere as required.	Collected by a scrap metal recycler.

f. Geology and Geochemistry

The mineral to be extracted – quartzite (SiO_2), is generally inert and is non-hazardous to the environment. The processed product does not differ chemically from the ore. The mineral is not expected to adversely impact rehabilitation.

g. Material Prone to Spontaneous Combustion

No materials prone to spontaneous combustion will be excavated or used.

h. Material Prone to Generating Acid Mine Drainage

There is no evidence that the scapolite hornfels, shale and sandstone material which may require placement in extended stockpile areas could result in acid mine drainage. These materials excavated and used on the Quarry Site to date have been proven to be inert.

i. Ore Beneficiation Waste Management (Reject and Tailings Disposal)

By-products of crushing and washing are retained on the Quarry Site and either:

- blended with other products for sale, or
- stockpiled and sold as a select fill.

As a last resort, these materials will be included with other waste rock and used in the construction of new or lifted stockpile areas (refer to Rock/Overburden Emplacement).

j. Erosion and Sediment Control

The following principal surface water and erosion control measures, or as updated within the Quarry Soil and Water Management Plan (SWMP) and Erosion and Sediment Control Plan (ESCP) (Appendix 3 of the SWMP), will continue to be implemented at the Quarry:

- Water from undisturbed (clean) catchments, on-site or upstream, is directed away from disturbed areas via diversion drains which discharge directly to the receiving environment downstream of the Quarry.
- Stormwater runoff interacting with disturbance by Quarry activities is directed via gravity or drainage infrastructure to sediment basins which have been or will be constructed in accordance with design and capacity requirements provided by the *Volume 2E of Managing Urban Stormwater: Soils and Construction* (DECCW, 2010) ("the Blue Book").
- Use of temporary erosion and sediment control structures including sediment fencing, straw bale filters, coir logs and check dams, where required to minimise the discharge of sediment-laden water from erosion susceptible areas and non-vegetated stockpile areas.
- Use of permanent erosion control structures including check dams and rock armouring, where required.
- Installation of energy dissipaters and outlet protection at the outlet of pipe drains, if required.

k. Ongoing Management of Biological Resources for use in Rehabilitation

Refer to Soils and Other Rehabilitation Materials for specific details on the ongoing management of biological resources for use in rehabilitation.

l. Mine Subsidence

There is no proposed or existing underground mining at the Quarry.

m. Management of Potential Cultural and Heritage Issues

Walker Quarries operates in accordance with an approved *Aboriginal Cultural Heritage Management Plan*.

n. Exploration Activities

Exploration may be undertaken on the MLs to review resource estimates. This will be identified in the Annual Rehabilitation Reports and Forward Programs for the Quarry with operation and rehabilitation to be undertaken in accordance with the latest version of the *Exploration Code of Practice: Rehabilitation* (NSW RR, 2022).

6.2.2 Decommissioning

The decommissioning phase involves the dismantling or demolition, removal and remediation of the land on which the infrastructure was located following the cessation of operations. The objectives for this phase of rehabilitation are:

- To maximise the re-use or recycling of materials.
- To stabilize the area surrounding the infrastructure to be decommissioned to prevent pollution to air, land or water.
- To remediate any contamination and ensure the area is non-polluting prior to commencement of the landform establishment phase.

Most demolition/decommissioning works will be planned and undertaken as soon as practicable following the cessation of the relevant activities unless alternative post-mining uses are identified or proposed for these assets at the time. Information regarding completed/planned decommissioning and demolition activities will be included in Annual Rehabilitation Reports and Forward Programs.

Walker Quarries will develop a Closure RMP in consultation with the Resources Regulator and other stakeholders within five years of site closure. This will include details covering the evaluation of re-use opportunities for facilities, infrastructure and services on the site.

The following sections provide a summary of how the key aspects of the decommissioning phase are managed at the Quarry.

a. Site Security

Site security during the decommissioning phase will be described in detail in the Closure RMP and will include:

- Appropriate fencing, signage and locked gates where required.
- At completion of quarrying, the access gates to the Quarry Site will be locked.
- Site inductions and restricted access to the Quarry.
- Security patrols if identified as necessary.

b. Infrastructure to be Removed or Demolished

Infrastructure and services will be demolished (where appropriate) and removed. These will include:

- Office facility, bathhouse, workshop, crib building, demountable buildings, stores and carport.
- Fuel storage area.
- Internal roads.
- Hardstand and sealed surfaces of infrastructure areas.

c. Building, Structures and Fixed Plant to be Retained

There are no buildings, structures or fixed plant proposed to be retained. The site entrance and initial section of sealed access road will be retained in the final landform.

d. Management of Carbonaceous/Contaminated Material

There are no carbonaceous materials present at the Quarry, therefore management of carbonaceous materials will not be required.

A Phase 1 contamination assessment will be undertaken prior to cessation of operations, with subsequent investigations as required to inform future management actions, as required.

e. Hazardous Materials Management

All hazardous materials at the Quarry are managed in accordance with the relevant Safety Data Sheets (SDS) and procedures for the safe handling and storage of hydrocarbons, compressed oxygen and acetylene, as well as applicable legislation relating to hazardous material management and disposal.

All remaining materials on site at closure including hydrocarbons such as diesel, lubricants and other hazardous materials will be either utilised or disposed of at an authorised facility. The storage tanks will be removed and depending on their condition, either sold or disposed of at a licenced facility.

f. Underground Infrastructure

There is no underground infrastructure associated with the Quarry.

6.2.3 Landform Establishment

The landform establishment phase involves the earthworks required to create a stable and permanent landform suitable for the proposed final land use.. With the exception of the final void, the final landform will integrate with and complement the surrounding topography. This phase will also include the construction of any drainage structures required to meet the proposed completion criteria and final land use.

The objectives of this rehabilitation phase are to:

- Stabilize all disturbed areas and minimise erosion and dust generation.
- Provide a low maintenance, geotechnically stable and safe landform suitable for the intended final land use.

- Achieve the nominated design for each landform.
- Blend the created landform with the surrounding topography, where possible.

Proposed final landform features and contours are shown in the Final Landform and Rehabilitation Plans (refer to **Figures 5.1** and **5.2**). The approach to establishment of key landform features has been outlined below.

a. Water Management Infrastructure

All water storages are to be decommissioned, backfilled with available waste rock and profiled to allow for establishment of native vegetation.

Select areas will be profiled to provide preferential drainage pathways for surface runoff to natural drainage lines, and with the exception of the final void, no water is to be captured and/or retained on the final landform.

Further detail will be provided in Annual Rehabilitation Reports, Forward Programss and the future Closure RMP.

b. Final Landform Construction: General Requirements

General Design

With the exception of the final void, the final landform will integrate with and complement the surrounding topography.

The landforms of the former water storages, processing area and stockpile areas will will be developed with continuous slopes at a maximum of 18°.

Rehabilitation areas are to be cross ripped on the contour prior to and following placement of growth medium and ameliorants (if required) to create furrows and assist in:

- Keying in the applied growth medium (to prevent rilling and erosion).
- Slowing overland water flows.
- Creating a suitable seed bed.

Water Management

In accordance with the ESCP:

- Upslope (clean) water runoff will be diverted around the features under construction and discharged via controlled discharge points to natural drainage.
- Groundcover will be established as soon as practicable over disturbed areas either prepared for rehabilitation (e.g. Waste Rock Emplacement Area batter slopes) or areas not required as part of active mining operations (e.g. soil stockpiles).

Maintenance and Monitoring

Surveying of the final landforms will be conducted to ensure it is consistent with the approved designs.

Inspections of the landforms will be conducted by suitably qualified persons following rehabilitation to ensure the design is appropriate.

Independent consultants will be engaged to monitor geotechnical stability closely of the voids and constructed landform as operations approach completion.

c. Final landform construction: reject emplacement areas and tailings dams

The Quarry does not include reject emplacement areas or tailings dams.

d. Final landform construction: final voids, highwalls and low walls

Following cessation of mining a final void to a maximum depth of 860 m AHD will be retained. A highwall of between 35 and 60 m will remain with narrow benches constructed at approximately 15 m intervals. It is expected that vegetation will naturally establish on these benches over time as growth media and seed accumulates (noting no active revegetation strategy is proposed).

A waste rock or earth barrier at least 1 m high would be constructed around the perimeter of the voids.

e. Construction of creek/river diversion works

No creek diversions have been constructed or are required.

6.2.4 Growth Medium Development

The growth medium development phase involves the placement of soil/subsoil or a suitable alternative over disturbed areas, fertiliser or ameliorant application and ripping or scarifying the growth medium.

The objectives of this rehabilitation phase of rehabilitation are to:

- Achieve a growth medium profile capable of sustaining the specified final land use.
- Minimise the potential for erosion, sedimentation and dust generation prior to establishment of vegetation.

Key activities include:

- Ripping of roads, hardstand and stockpile areas not required for ongoing operations or property management.
- Installation of temporary erosion and sediment controls downslope of growth media application areas in the form of sediment fencing (or equivalent) or sediment basins (where deemed necessary).
- Topdressing of areas with soil or a suitable alternative to a minimum depth of 100 mm.
- Cross ripping of topsoiled surface to integrate topsoil, subsoil (or suitable alternative), ameliorants and to create a suitable seed bed.

- Topsoil surface will be sown with an initial cover crop for stability along with a native woodland seed mix.
- To improve the prospect of vegetation growth, rehabilitation activities will be undertaken in Spring.

Growth Media Balance

In accordance with Schedule 3, Condition 31(e) a soil and growth media balance are provided in **Table 6.3**. It is calculated that at least 29,400 m^3 of soil or a suitable alternative will be required to achieve the proposed final land use. As identified in the Rehabilitation Risk Assessment (**Table 3.1**), soil or growth media deficiency is considered a high risk for Quarry rehabilitation due to minimal soil being present across the site prior to mining and therefore limited availability for stockpiling. In the event of a soil deficit becoming unavoidable prior to the cessation of operations, the Quarry will implement the appropriate response/action identified in the Trigger Action Response Plan (TARP) (**Table 10.1**).

Table 6.3 Growth Media Balance

	Amount (m^3) [1]
Current growth media stockpiled for rehabilitation	3,200
Minimum growth media required to achieve completion criteria	29,400
Current growth media balance	**-26,200**

*Note 1: The values provided are correct at the date of commencement of this RMP, provided in the **Summary Table** (page i).*

6.2.5 Ecosystem and Land Use Establishment

The ecosystem and land use establishment phase involves the initial establishment and subsequent management of the target vegetation community.

The objectives of this rehabilitation phase of rehabilitation are to:

- Re-instate ecological communities with biodiversity commensurate with the adjacent remnant vegetation.
- Ensure that the ongoing viability of these ecological communities are sustainable following the conclusion of active management.
- Integrate the rehabilitated ecological communities with those surrounding the disturbed areas.

The establishment and subsequent management of vegetation associated with the native ecosystem land use will be:

- Prior to commencement of formal rehabilitation and monitoring, native seed will be collected and stored at a local nursery, where feasible.
- Where provenance seed cannot be collected in sufficient quantities, supplementary seed will be obtained from reputable suppliers.

- Prior to application to landforms prepared with growth media, seed viability testing will be undertaken and a seed mix typical of the vegetation community of the surrounding environment will be developed.
- The seed mix will include short-lived annual exotic non-invasive grass species (acting as a cover crop) native species commensurate with adjacent vegetation.
- Climatic and seasonal factors will be considered during planning for the ecosystem and land use establishment phase. A seed mix will be selected to include species tolerant to harsh winter conditions, and rehabilitation should be limited to Spring to maximise the survival rate.
- Weed management practices, such as the application of appropriate herbicide and physical removal of weeds will be undertaken annually, or more frequently as required following inspections.
- Pest management practices, such as implementation of protective vegetation guards, baiting or trapping as required.

Monitoring and Maintenance

Following commencement of significant revegetation activities, annual monitoring of rehabilitated areas will be undertaken to assess revegetation germination rates, plant health and weed infestation.

Annual monitoring will review if there are any early indicators of whether rehabilitation is likely to succeed or fail (e.g. lack of germination, high damage through herbivory etc).

Vegetation management is an ongoing process, and a suitably qualified independent rehabilitation specialist will be engaged to conduct this monitoring program as described in **Section 8.0**. Outcomes of monitoring will be recorded and any required management actions will be implemented as required.

6.2.6 Ecosystem and Land Use Development

Rehabilitated lands will be actively managed to ensure that the rehabilitation is sustainable and can be demonstrated to have achieved the approved rehabilitation objectives, rehabilitation completion criteria and alignment with the Final Landform and Rehabilitation Plan.

Active rehabilitation management will ensure long term sustainability of the rehabilitation. Management measures will include the following (as required):

- Weed and animal control.
- Ongoing erosion and drainage controls would be maintained.
- Ongoing environmental monitoring and management of surface water, groundwater, ecology and land capability in line with other approved environmental management plans required by the Quarry.
- Management of fuel-loads to minimise impact of bushfire, to be conducted in reference to Walker Quarries' Bushfire Management Plan.
- Repair of fence lines, access tracks and other general related land management activities.

Monitoring will continue in accordance with **Section 8.0** until it can be demonstrated that rehabilitation has satisfied completion criteria. Monitoring will also be used to refine closure criteria and modify rehabilitation procedures as required.

For the purposes of this RMP the ecosystem and land use development phase represents those activities required to develop sustainable ecosystems that have characteristics comparable to similar adjacent undisturbed vegetation in the area.

Where rehabilitation monitoring (see **Section 8.0**) confirms that the rehabilitation is not successful or is limited, maintenance works will be undertaken. This may include:

- Re-seeding and, where necessary, re-topsoiling and/or the application of specialised treatments such as composted mulch or bio-solids to areas with poor vegetation establishment.
- Installation of tree guards around planted seedlings or construction of temporary fencing suitable for excluding native and feral fauna species should grazing by animals be excessive.
- Replacement of drainage controls if they are found to be inadequate for their intended purpose, or compromised by vegetation or wildlife.
- De-silting or repair of sediment control structures.

Where monitoring indicates the presence of excessive weeds or the potential for noxious weed infestation, necessary precautions to prevent the development of weeds within the rehabilitated areas will be undertaken.

Monitoring results, any required maintenance activities and any refinements of rehabilitation techniques will be reported in the sites Annual Review / Annual Rehabilitation Report.

6.3 Rehabilitation Areas Affected by Subsidence

The planned mining will be open-cut and will therefore not result in mine subsidence. There are no legacy underground workings on the mining leases.

6.4 Biodiversity Offset Strategy

Walker Quarries provided a Biodiversity Offset Strategy (BOS) (Ecoplanning, 2018) to the DPHI which was subsequently approved. The BOS was implemented by retiring the required ecosystem and species credits via payment into the Biodiversity Conservation Fund on 29 November 2018 and 7 May 2020, satisfying Schedule 3, Conditions 25 and 28A, respectively (refer also to Section 5.2 of the Biodiversity Management Plan). Complementing the physical rehabilitation methods provided in this RMP, the payment constitutes the required conservation bond (in satisfaction of Schedule 3, Condition 27 of the Development Consent).

The planned physical rehabilitation of the site provided in this RMP, in conjunction with the implementation of the approved BOS (Ecoplanning, 2018) satisfies Schedule 3, Condition 31(e) of the Development Consent.

7.0 Rehabilitation Quality Assurance Process

The rehabilitation quality assurance process is detailed in **Table 7.1** (over page) and will be implemented across the life of mine for the rehabilitation phase.

The purpose of this process is to ensure the key actions and/or processes to validate and record the following:

- Rehabilitation is implemented in accordance with the nominated methodologies.
- Identified risks to rehabilitation are adequately addressed before proceeding to the next phase of rehabilitation.

Table 7.1 Rehabilitation Quality Assurance Process

Rehabilitation Phase	Quality Assurance Actions & Processes	Responsibilities for Implementation	Documentation & Recording	Method & Timeframe for Review
Active Mining	• Up to date mine plans. • Pre-clearance surveys. • Maintenance of topsoil inventory to document forecast resources, stripped/stockpiled material and future use of resources. • Inspections of erosion and sediment controls. • Weed management, control programs and inspections. • Routine and ad-hoc inspections and monitoring.	Operations Manager Mine Manager	• Annual reporting of outcomes in the Annual Rehabilitation Report and Forward Program. • Ecological pre-clearing surveys. • Annual topsoil inventory review included in future Annual Reviews and Annual Rehabilitation Reports. • Weed control program. • Regular Mine Manager inspections. • Quarterly inspections by independent consultant.	Annual Review and/or following a rehabilitation related incident.
Decommissioning	• Inspections and demolition reports to confirm all infrastructure has been removed and waste appropriately disposed of at licenced facility. • Phase 1 Contamination Assessment as minimum. • Validation testing to ensure any contamination has been appropriately remediated and/or removed prior to commencing the next phase of rehabilitation.	Operations Manager Mine Manager	• Inspections and documentation. • Phase 1 Contamination Assessment. • Validation Reports. • Waste Disposal Records. • Compliance reporting.	Annual Review and/or following a rehabilitation related incident.
Landform Establishment	• Survey and preparation of as-constructed drawings of final constructed slopes, landforms and water drainage structures. • Constructed landforms are to be confirmed as being generally in accordance with the final landform by	Operations Manager Mine Manager	• As-built landform survey records. • Annual rehabilitation monitoring and reporting in the Annual Rehabilitation Report and Forward Program.	Annual Review and/or following a rehabilitation related incident.

Rehabilitation Phase	Quality Assurance Actions & Processes	Responsibilities for Implementation	Documentation & Recording	Method & Timeframe for Review
	survey prior to commencing to the next rehabilitation phase.			
Growth Medium Development	• Maintenance of topsoil inventory. • Soil testing and amelioration advice. • Weed management of topsoil stockpiles prior to application (e.g. scalping weeds prior to application). • Recording depths of ripping and rehabilitation. • Inspection to confirm growth medium materials have been applied appropriately prior to application of seed.	Operations Manager Mine Manager	• Inspections and documentation. • Annual topsoil inventory review included in future Annual Reviews and Annual Rehabilitation Reports. • Weed control program. • Annual biodiversity / rehabilitation monitoring and reporting in the Annual Rehabilitation Report and Forward Program.	Annual Review and/or following a rehabilitation related incident.
Ecosystem and Land Use Establishment	• Verification of correct seed mix/plant species and application area prior to seeding. • Seed viability test results. • Seeding and/or planting activities. • Weed and feral pest management. • Rehabilitation monitoring.	Operations Manager Mine Manager	• Annual rehabilitation monitoring and reporting in the Annual Rehabilitation Report and Forward Program. • Weed control program.	Annual Review and/or following a rehabilitation related incident.
Ecosystem and Land Use Development	• Weed and feral pest management. • Water monitoring. • Rehabilitation monitoring.			

8.0 Rehabilitation Monitoring Program

The Quarry has very limited existing rehabilitation and infrastructure will be retained until the cessation of operations. There has not been any formal rehabilitation monitoring undertaken at the Quarry, however regular inspections are undertaken for stability, vegetation establishment and weed management requirements (refer **Section 8.2.1**).

Following establishment of final rehabilitation areas, a formal rehabilitation monitoring program will be implemented. The monitoring program will incorporate the most appropriate indicators and methods that:

- Provide a measure of completion criteria to be assessed in accordance with the defined rehabilitation objectives.
- Adequately track changes to rehabilitation phases.
- Are reproducible.
- Utilise scientific recognised techniques.
- Are cost-effective.

Monitoring will be conducted by a suitably skilled and qualified person(s) at locations representative of the range of conditions on the rehabilitating areas and appropriate analogue sites. Monitoring results will inform refinements of rehabilitation methodology as required. Rehabilitation monitoring will be continued until it can be demonstrated that rehabilitation has satisfied all rehabilitation and closure criteria. Details regarding the formal rehabilitation monitoring program have been outlined in **Section 8.1, Section 8.2.2** and **Section 8.3**.

8.1 Analogue Site Baseline Monitoring

Local reference (analogue) sites are integral to the rehabilitation monitoring program and are required to form the baseline against which rehabilitation results are compared over the course of the program. The number and location of reference sites will be chosen according to the following criteria:

- Located in native vegetation representative of the target vegetation for the respective rehabilitation area.
- Vegetation is in moderate to good condition and not subject to substantial threatening processes, such as physical damage, weed infestation, grazing, bushfire damage or dieback.
- Located in native vegetation that is secure from future mine related activities and disturbance.
- Plots should not be located in or near ecotones, vehicle tracks and their edges, or other disturbed areas that are readily distinguishable from the broad condition state of the vegetation zone.

Where separate areas of land are mapped into a single vegetation zone, the plots should be located across the separate areas, while being representative of the zone.

8.2 Rehabilitation Establishment Monitoring

8.2.1 Visual Inspections

An inspection of the landform under rehabilitation will be undertaken on a quarterly basis by the Quarry Manager or delegate with the following features of any areas under rehabilitation to be considered:

- Presence/absence of erosion.
- Signs of pooling water within drainage channels.
- Approximate coverage of groundcover (grasses, creepers, low shrubs) over areas that are being managed as 'temporarily stabilization'.
- Vegetation components (overstorey, understorey and groundcover where applicable).
- Presence of weed species.
- Status of safety bunds or fencing.
- Disturbance factors including fire and unauthorised access e.g., rubbish dumping.

Photographs will be taken to document erosion, poor groundcover/vegetation or other factors which are detrimental to the achievement of the rehabilitation criteria of **Table 4.2**. Remedial activities will be programmed as required to address issues such as eroding surface, poor vegetation establishment or weed infestation. Follow-up inspections and photographs will allow for demonstration of remediation of these observations.

8.2.2 Future Rehabilitation Monitoring

The data yielded from the monitoring program (refer **Section 8.1** and **Section 8.3**) allows an adaptive management approach by providing information to inform the type and implementation of management activities and determining the status of rehabilitation performance in relation to completion criteria. This facilitates the continual improvement and refinement of rehabilitation techniques.

Where rehabilitation performance is not trending to the nominated completion criteria this may indicate that there is a threat to long term rehabilitation success. Threats to rehabilitation may include events such as periods of drought, bushfire events, or pressures from weeds and feral animals.

The rehabilitation monitoring program will report against relevant components of the Trigger Action Response Plan (TARP) in **Section 10.0**. Where rehabilitation monitoring indicates that there is a potential threat to rehabilitation, the adaptive management actions will be undertaken in accordance with the TARP.

8.3 Measuring Performance Against Rehabilitation Objectives and Rehabilitation Completion Criteria

The proposed monitoring method for rehabilitation sites is summarised below and is consistent the objectives and criteria in **Section 4.0**. The key elements of the approach are:

- Survey design – stratification of the rehabilitation areas and reference vegetation areas – identifying locations and number of monitoring plots within rehabilitation areas and control sites (target vegetation areas); establishment of permanent monitoring stations (marked on ground, recorded and mapped).
- Photographic monitoring (or 'photo monitoring').
- Collection of vegetation and habitat data via BAM plots (with subsequent analysis and statistics).
- Vertebrate pest species, domesticated stock – presence and damage is recorded and photographed where present.

8.3.1 Photographic Monitoring

Photo-monitoring is to be conducted as part of the sampling of permanent vegetation (BAM) plots according to the following procedure:

- one photo (landscape view) is taken by the recorder with a GPS camera standing at the start of the 50 m transect (which bisects the BAM plot); this is taken to be the uphill end of the 50 m transect; and
- one photo (landscape view) is taken by the recorder with a GPS camera standing at the end of the 50 m transect; this is taken to be the downhill end of the 50 m transect.

8.3.2 Vegetation Composition, Function and Structure (BAM Data)

All vegetation monitoring plots are to be surveyed following the methodology detailed in Section 4.3.4 of the BAM (OEH 2020). This involves a 20 x 20 m floristic plot to assess species diversity and ground cover, a 20 x 50 m structural attribute plot to collect tree stem size, large woody debris (LWD) and hollow-bearing tree data and five 1 m x 1 m plots to assess litter cover percentage (as well as bare ground, cryptogram and rock).

8.3.3 General Observations

In addition to the plot-based surveys, the following features are also recorded:

- Evidence of erosion across the sites, documenting type and severity.
- Presence of threatened or other significant species.
- Opportunistic occurrence and abundance of weeds, specifically priority weed species, as listed under the NSW *Biosecurity Act 2015*.
- Opportunistic evidence of native fauna using the site (outside of monitoring stations).
- Signs of disturbance, either by stock, feral animals, vehicles or humans.

8.3.4 Reporting

Outcomes of future monitoring as outlined in **Section 8.1, Section 8.2.2** and **Section 8.3** will be reported in the Annual Rehabilitation Report / Annual Review. The Annual Rehabilitation Report / Annual Review provides additional specific detail, maps and statistics regarding planned rehabilitation activities and schedules for previous reporting period and the next three-year period.

Improvement measures implemented following inspections (refer **Section 8.2.1**) will be reported in the Annual Rehabilitation Report / Annual Review.

9.0 Rehabilitation Research, Modelling and Trials

9.1 Current Rehabilitation Research, Modelling and Trials

No rehabilitation trials or research on active rehabilitation are currently being undertaken for the Quarry given the lack of available rehabilitation areas.

9.2 Future Rehabilitation Research, Modelling and Trials

No rehabilitation trials or research on active rehabilitation are currently planned for the Quarry given the lack of available rehabilitation areas.

10.0 Intervention and Adaptive Management

Where rehabilitation performance is not trending to the nominated completion criteria this may indicate that there is a threat to long term rehabilitation success. Threats to rehabilitation may include events such as periods of drought, bushfire events, or pressures from weeds and feral animals.

The TARP has been developed to provide a framework to manage potential key risks to rehabilitation. The Rehabilitation TARP includes:

- Identification of the principal contributing factors and impacts for each major risk to rehabilitation.
- Identification of upper limits (trigger values) for causes and impacts that are considered to represent an unacceptable level of risk.
- Identification of appropriate responses to mitigate or remediate the causes and impacts, including a notification protocol.

Should any trigger conditions be met resulting in the requirement for intervention or adaptive management, actions will be reported in the Annual Rehabilitation Report. Walker Quarries will notify the RR and other relevant stakeholders of any incident (such as bushfire or disease) that results in major impacts to rehabilitation that are likely to significantly impact the potential to achieve rehabilitation success.

The TARP will be revised as conditions at the Quarry change or new risks to rehabilitation are identified.

Table 10.1 Trigger Action Response Plan

Aspect/ Category	Key Element	Element Number	Trigger Response	Condition Green	Condition Amber	Condition Red
Landform stability	Erosion control	1	Trigger	No gully or tunnel erosion. No rilling present.	Minor gully or tunnel erosion present and/or rilling <300 mm deep.	Significant gully or tunnel erosion present and/or rilling >300 mm deep.
			Response	No response required. Continue monitoring program.	A suitably trained person to inspect the site. Investigate opportunities to install water management infrastructure to address erosion. Remediate as appropriate.	Undertake a review of the drainage of the area and provide recommendations to appropriately remediate the erosion. Remediate as soon as practicable.
	Free draining landforms	2	Trigger	No ponding or drainage issues present in landform.	Landforms exhibiting minor ponding.	Landforms exhibiting significant drainage issues, threatening or causing rehabilitation failure.
			Response	No response required. Continue monitoring program.	An inspection of the site will be undertaken by a suitably trained person. Investigate opportunities to address issues. Remediate as appropriate.	Undertake a review of the drainage design and provide recommendations to appropriately remediate the area. Remediate as soon as practicable. Liaison with RR regarding landform.
	Water management structures	3	Trigger	Water management structures have been designed and constructed in accordance with Blue Book requirements and maintained in good condition with no erosion and/or scouring.	Water management structures (sediment dams, channels, contour banks) display minor erosion and/or scouring.	Water management structures fail or display significant scouring / erosion.

Aspect/ Category	Key Element	Element Number	Trigger Response	Condition Green	Condition Amber	Condition Red
			Response	No response required. Continue monitoring program.	An inspection of the site will be undertaken by a suitably trained person. Identify remedial actions such as amelioration, re-vegetation or alternative scour protection.	Engage suitable person to develop a site-specific remediation plan and review water management structure design criteria.
Water Quality	Monitoring parameters	4	Trigger	Surface water quality of runoff from rehabilitation areas is within EPL criteria and rehabilitation performance criteria established within this document.	Water quality exceeds EPL or performance criteria but does not indicate a long-term rehabilitation issue. Monitoring does not illustrate impact to rehabilitation.	Water quality exceeds criteria, indicating a long-term rehabilitation liability. Monitoring illustrates impact to rehabilitation.
			Response	No response required. Continue monitoring program.	Review and investigation of water quality monitoring and management where appropriate. Implement relevant remedial measures where required.	Reporting as per statutory reporting requirements. Implement relevant responses and undertake immediate review to determine source of issues and implement remediation measures identified as soon as practicable. Liaison with relevant regulatory authorities.
Soil quality	Topsoil quality	5	Trigger	Sufficient topsoil, benign overburden material or appropriate topsoil substitute material is identified for rehabilitation over the Life of the Mine.	Topsoil balance indicates a deficiency in topsoil available (and an alternative media or benign overburden material is not available) for rehabilitation and there is a chance that the required rehabilitation outcomes may not be met.	Deficiency significant and alternate not available such that it will delay rehabilitation progression during the LOM and the likelihood of rehabilitation success is low.

Aspect/ Category	Key Element	Element Number	Trigger Response	Condition Green	Condition Amber	Condition Red
			Response	No response required. Continue monitoring program.	Investigate options and alternatives (e.g. organic growth medium [OGM]) to be able to meet future topsoil requirements. Continue to direct seed into material where possible and monitor.	Source and budget for purchasing topsoil for use in rehabilitation, Investigate use of alternatives such as OGM.
	Monitoring parameters	6	Trigger	Properties of soil are within 20 % from relevant analogue site after 5 years of rehabilitation.	Properties of soil are > 20 % from results at relevant analogue site after 5 years of rehabilitation; however, area is able to sustain selected vegetation species.	Properties of soil are > 20 % from results at relevant analogue site after 5 years; the area is not able to sustain selected vegetation species.
			Response	No response required. Continue monitoring program.	Investigate application of additional soil, and/or use of appropriate soil ameliorants or management options to address soil quality if deemed necessary.	Consultant to be engaged to assist with recommendations to appropriately remediate soil quality and depth. Remediate as soon as practicable.
Vegetation	Ground cover	7	Trigger	Five years following rehabilitation to woodland, ≥ 70 % total ground cover (vegetation, leaf litter, mulch) is present within rehabilitated areas.	Five years following rehabilitation to woodland, total ground cover (vegetation, leaf litter, mulch) of between 55–70% in rehabilitated areas.	Five years following rehabilitation to woodland, total ground cover (vegetation, leaf litter, mulch) is < 55 % within rehabilitated areas.
			Response	No response required. Continue monitoring program.	Review procedures where required to increase vegetation cover.	A suitably trained person to inspect the site. Investigate use of appropriate management options to remediate. Remediate as appropriate.

Aspect/ Category	Key Element	Element Number	Trigger Response	Condition Green	Condition Amber	Condition Red
	Weed presence	8	Trigger	Twelve months following rehabilitation, no significant weed infestations present.	Twelve months following rehabilitation, >10% but <25% cover of undesirable species present.	Twelve months following rehabilitation, >25% cover of undesirable species present.
			Response	No response required. Continue monitoring program.	Engage weed management contractor to remove introduced species from the site.	Engage weed management contractor to remove introduced species from the site as soon as practicable. Investigate management measures to assist native plant establishment including use of ameliorants and implement as appropriate.
	Pest animal species presence	9	Trigger	No significant pest animal species present.	Significant pest animal species present but do not threaten to cause rehabilitation failure.	Significant numbers of pest animals causing widespread damage to rehabilitation.
			Response	No response required. Continue monitoring program.	Consult with relevant authorities regarding appropriate pest animal control campaign.	Consult with relevant authorities regarding appropriate pest animal control campaign. Engage a suitably qualified specialist to prepare a site management plan and implement recommendations such as augmenting pest animal exclusion fencing and re-vegetation.

Aspect/ Category	Key Element	Element Number	Trigger Response	Condition Green	Condition Amber	Condition Red
	Species composition	10	Trigger	Five years following rehabilitation species composition comprises a mixture of native trees, shrubs and/or grasses representative of vegetation in comparable analogue sites.	Five years following rehabilitation vegetation composition comprises <75% species consistent with analogue site.	Five years following vegetation composition comprises <60% species consistent with analogue site.
			Response	No response required. Continue monitoring program.	Review native seed mix and amend accordingly. Consider remedial actions such as tubestock planting or re-seeding to achieve required species composition.	An inspection of the site will be undertaken by a suitably trained person. Investigate remedial options to achieve required species composition and implement recommendations.
	Vegetation Health	11	Trigger	Five years following rehabilitation ≥75% of trees / shrubs and grasses are healthy and growing.	Five years following rehabilitation <75 % but > 60% of trees / shrubs and grasses are healthy and growing.	Five years following rehabilitation <60% % of trees / shrubs and grasses are healthy and growing.
			Response	No response required. Continue monitoring program.	Undertake a field survey to identify likely causes of unsatisfactory vegetation health.	An inspection of the site will be undertaken by a suitably trained person to identify likely causes of unsatisfactory vegetation health. Investigate management measures to assist native plant sustainability and implement as appropriate.

11.0 Review, Revision and Implementation

11.1 Review and Revision

Routine reviews of this RMP occur following the Annual Review. This allows the review to be undertaken in consideration of feedback from consultation with Walker Quarries' internal specialists, neighbours, the community and regulatory agencies.

The RMP is also reviewed following incidents and where changes to the mine plan or methods described in the RMP are planned. Where changes are considered necessary or beneficial, the RMP is revised and submitted to the DPHI. Following approval, the updated RMP will be made publicly available on the Walker Quarries website.

Triggers for review of the RMP are outlined in **Table 11.1**.

Table 11.1 Triggers for Review of RMP

Trigger for Review	Source of Regulatory Requirement
The lease holder must amend the prepared RMP in the following circumstances: • As a consequence of an amendment made to the rehabilitation objectives, rehabilitation completion criteria or final landform and rehabilitation plan. • To reflect any changes to the risk control measures in the rehabilitation management plan that are identified in a rehabilitation risk assessment. • Whenever directed in writing to do so by the Secretary.	Mining Regulation 2016, Clause 11 of Schedule 8A
Within 3 months of the submission of an: (a) Incident report under condition 9 below; (b) Annual Review under condition 11 below; (c) Audit report under condition 14 below; and (d) any modifications to this consent, The Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. The applicant must notify the Department in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary.	DA 344-11-2001, Schedule 5, Condition 5

11.2 Implementation

Table 11.2 outlines the roles and responsibilities of personnel who have responsibility for monitoring, review and implementation of this RMP.

Table 11.2 Summary Roles and Responsibilities for RMP Implementation

Role	Responsibilities
Managing Director	Ensure adequate resources are available to enable implementation of the RMP.
Quarry (Mine) Manager	Accountable for the overall environmental performance of the operations, including the outcomes of this RMP. Ensure employees are competent through training and awareness programs. Ensure the Annual Rehabilitation Review is undertaken. Ensure mine planning and operations practices are consistent with the plans and objectives detailed in this plan. Monitor and review of performance via field inspections. Ensure other monitoring is commissioned and undertaken.
Compliance Manager	Ensure reporting and actioning of non-compliances with the trigger values, and subsequent implementation of the relevant action plan.
All employees	Follow direction provided by the Quarry management with respect to activities undertaken and regulatory compliance. Ensure operations are consistent with the plans and objectives detailed in this RMP.

11.3 Reporting

The following reporting mechanisms are applied to verify compliance with the RMP and support progression towards the post mining land use goal and rehabilitation objectives:

- Results of annual monitoring are assessed by suitably qualified and experienced consultants.
- Landforms are surveyed and monitored to ensure final landform meets rehabilitation requirements.
- The Forward Program is prepared annually and provides the Quarry's forecast disturbance and rehabilitation over the following three years.
- The Annual Rehabilitation Report provides an annual assessment of mining activities against previous Forward Programs and this RMP.
- A compliance management spreadsheet that captures all compliance obligations, including those relating to rehabilitation, was implemented in January 2023. The database is a 'live' document that allows the Quarry Manager to track the due date and status of each obligation, arranged by month. The compliance management system was a "suggestion for improvement" from the RR Audit Report dated March 2023.
- A summary of rehabilitation progress and monitoring will be included in the Annual Review, which will be submitted to DPHI and made available on the Walker Quarries' website.

12.0 References

Department of Environment, Climate Change and Water (DECCW) (2010). Managing Urban Stormwater: Soils and Construction, Volume 2E.

Ecoplanning Pty Ltd (2018). Biodiversity Offset Strategy – Wallerawang Quarry. Prepared for Walker Quarries.

Ecoplanning Pty Ltd (2023). Biodiversity Monitoring 2022 – Wallerawang Quarry. Prepared for Walker Quarries.

NSW Resources Regulator (RR) (2015). Exploration Code of Practice: Rehabilitation.

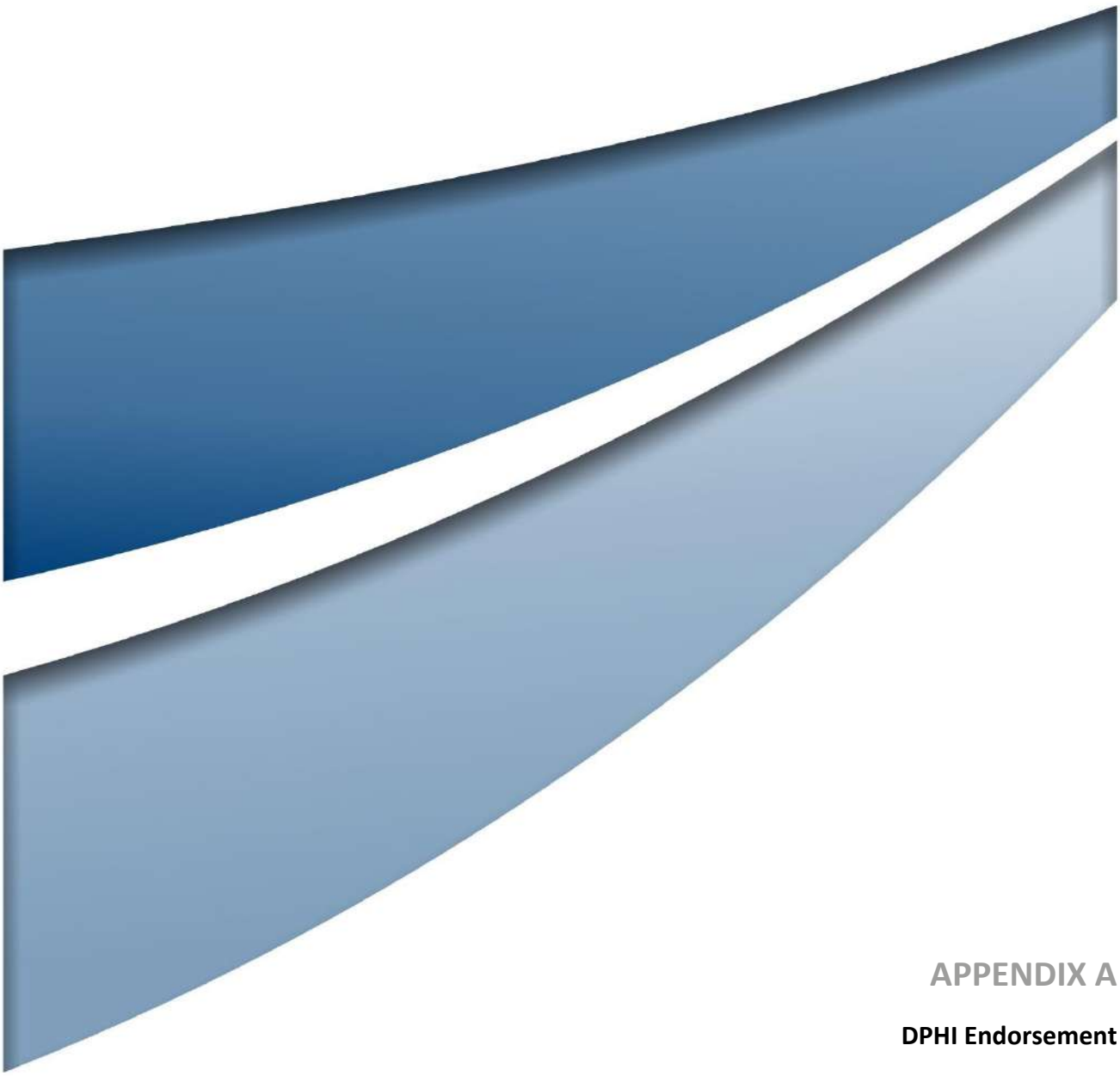
NSW Resources Regulator (RR) (2021a). Rehabilitation Management Plan for Large Mines (2021) Form and Way (and associated Guidelines and Factsheets).

NSW Resources Regulator (RR) (2021b). NSW Resources Regulator Guideline Rehabilitation Risk Assessment.

NSW State Government (2021). Mining Amendment (Standard Conditions of Mining Leases—Rehabilitation) Regulation 2021 under the Mining Act 1992.

Umwelt (Australia) Pty Limited (2019). Wallerawang Quarry Modification 3. Statement of Environmental Effects. Prepared on behalf of Walker Quarries Pty Ltd.

Umwelt (Australia) Pty Limited (Umwelt) (2020). Wallerawang Quarry 4th Mining Operations Plan (July 2020).



APPENDIX A

DPHI Endorsement

Department of Planning and Environment

Our ref: DA344-11-2001-PA-40

Mr Wayne Chapman
Quarry Manager
Wallerawang Quarry
963 Great Wesetrn Highway
Marrangaroo, NSW, 2790

21/03/2023

Subject: Appointment of Suitably Qualified and Experienced Rehabilitation Expert

Dear Mr Chapman

I refer to your request for the Planning Secretary's approval of Mr Adam Williams of Umwelt Environmental and Social Consultants as the rehabilitation expert under Schedule 3, Condition 31(a) of DA344-11-2001.

The Department has reviewed the nomination and information you have provided and is satisfied that Mr Williams is suitably qualified and experienced. Accordingly, I can advise that the Planning Secretary approves the appointment of Mr Williams as the rehabilitation expert to prepare the Rehabilitation Management Plan for Wallerawang Quarry.

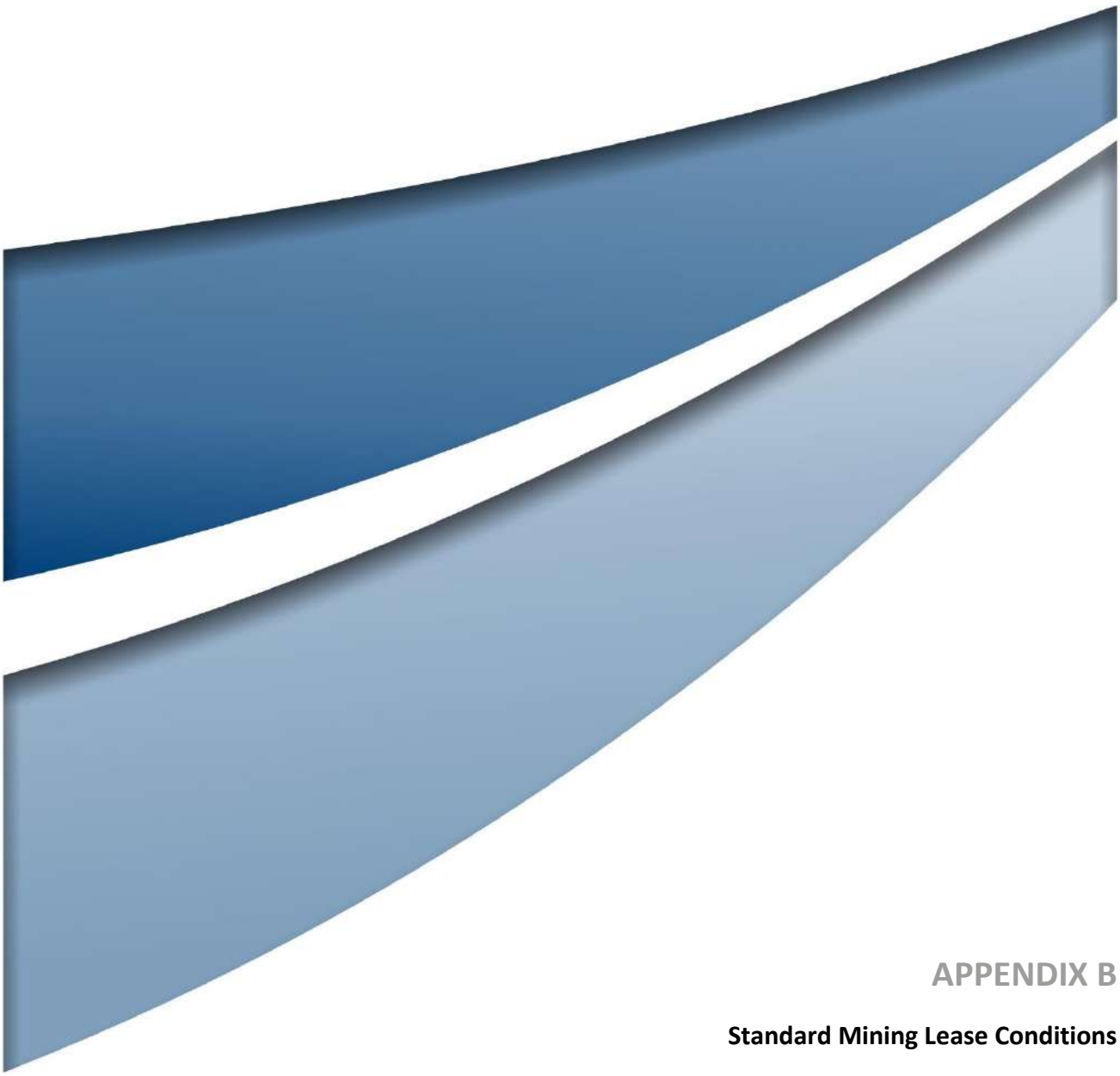
If you wish to discuss the matter further, please contact Nagindar Singh on 8289 6873 or via email at nagindar.singh@planning.nsw.gov.au.

Yours sincerely

JEvans

Jessie Evans
Director, Resource Assessments
Resource Assessments

As nominee of the Planning Secretary



APPENDIX B

Standard Mining Lease Conditions

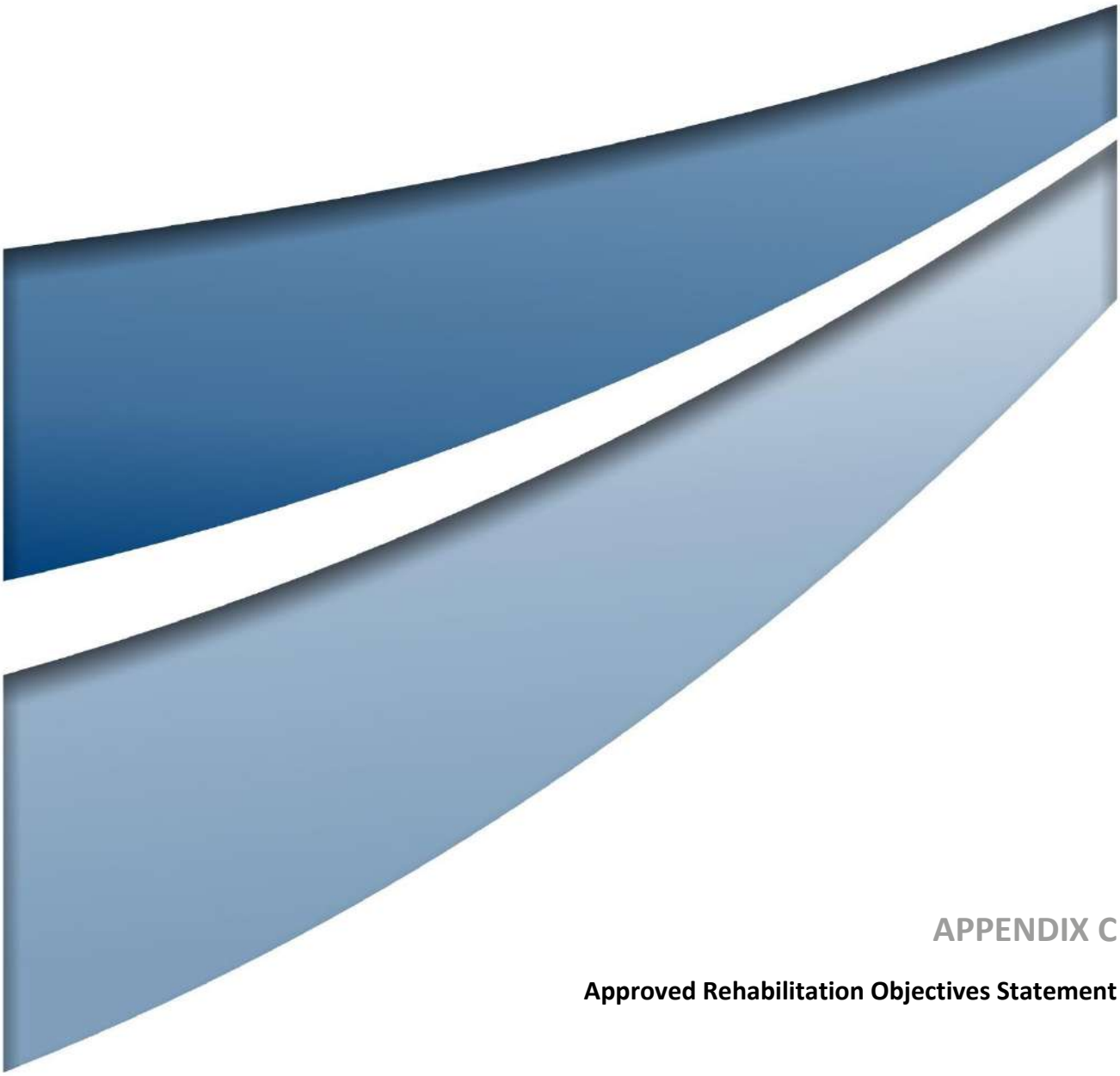
Condition	Requirement
Part 2 Standard Conditions Division 1 Condition 4	Must prevent or minimise harm to environment (1) The holder of a mining lease must take all reasonable measures to prevent, or if that is not reasonably practicable, to minimise, harm to the environment caused by activities under the mining lease.
	(2) In this clause— harm to the environment has the same meaning as in the *Protection of the Environment Operations Act 1997*.
Part 2 Standard Conditions Division 1 Condition 5	Rehabilitation to occur as soon as reasonably practicable after disturbance The holder of a mining lease must rehabilitate land and water in the mining area that is disturbed by activities under the mining lease as soon as reasonably practicable after the disturbance occurs.
Part 2 Standard Conditions Division 1 Condition 6	Rehabilitation must achieve final land use (1) The holder of a mining lease must ensure that rehabilitation of the mining area achieves the final land use for the mining area.
	(2) The holder of the mining lease must ensure any planning approval has been obtained that is necessary to enable the holder to comply with subclause (1).
	(3) The holder of the mining lease must identify and record any reasonably foreseeable hazard that presents a risk to the holder's ability to comply with subclause (1). Note— Clause 7 requires a rehabilitation risk assessment to be conducted whenever a hazard is identified under this subclause.
	(4) In this clause—final land use for the mining area means the final landform and land uses to be achieved for the mining area— (a) as set out in the rehabilitation objectives statement and rehabilitation completion criteria statement
	(b) for a large mine—as spatially depicted in the final landform and rehabilitation plan
	(c) if the final land use for the mining area is required by a condition of development consent for activities under the mining lease—as stated in the condition.
	planning approval means— (a) a development consent within the meaning of the *Environmental Planning and Assessment Act 1979*, or
	(b) an approval under that Act, Division 5.1.

Condition	Requirement
Part 2 Standard Conditions Division 2 Condition 7	(1) The holder of a mining lease must conduct a risk assessment (a *rehabilitation risk assessment*) that—
	(a) identifies, assesses and evaluates the risks that need to be addressed to achieve the following in relation to the mining lease—
	(i) the rehabilitation objectives,
	(ii) the rehabilitation completion criteria,
	(iii) for large mines—the final land use as spatially depicted in the final landform and rehabilitation plan, and
	(b) identifies the measures that need to be implemented to eliminate, minimise or mitigate the risks.
	(2) The holder of the mining lease must implement the measures identified.
	(3) The holder of a mining lease must conduct a rehabilitation risk assessment— (a) for a large mine—before preparing a rehabilitation management plan,
	(b) for a small mine—before preparing the rehabilitation outcome documents for the mine, and
	(c) whenever a hazard is identified under clause 6(3)—as soon as reasonably practicable after it is identified, and
	(d) whenever given a written direction to do so by the Secretary.
Part 2 Standard Conditions Division 3 Condition 8	Application of Division This Division does not apply to a mining lease unless— (a) the security deposit required under the mining lease is greater than the minimum deposit prescribed under the Act, section 261BF in relation to that type of mining lease, or
	(b) the Secretary gives a written direction to the holder of the mining lease that this Division, or a provision of this Division, applies to the mining lease.
Part 2 Standard Conditions Division 3 Condition 9	General requirements for documents A document required to be prepared under this Division must— (a) be in a form approved by the Secretary, and Note— The approved forms are available on the Department's website.
	(b) include any matter required to be included by the form, and
	(c) if required to be given to the Secretary—be given in a way approved by the Secretary.

Condition	Requirement
Part 2 Standard Conditions Division 3 Condition 10	Rehabilitation management plans for large mines (1) The holder of a mining lease relating to a large mine must prepare a plan (*a rehabilitation management plan*) for the mining lease that includes the following— (a) a description of how the holder proposes to manage all aspects of the rehabilitation of the mining area,
	(b) a description of the steps and actions the holder proposes to take to comply with the conditions of the mining lease that relate to rehabilitation,
	(c) a summary of rehabilitation risk assessments conducted by the holder,
	(d) the risk control measures identified in the rehabilitation risk assessments,
	(e) the rehabilitation outcome documents for the mining lease,
	(f) a statement of the performance outcomes for the matters addressed by the rehabilitation outcome documents and the ways in which those outcomes are to be measured and monitored.
	(2) If a rehabilitation outcome document has not been approved by the Secretary, the holder of the mining lease must include a proposed version of the document.
	(3) A rehabilitation management plan is not required to be given to the Secretary for approval.
	(4) The holder of the mining lease— (a) must implement the matters set out in the rehabilitation management Plan, and
	(b) if the forward program specifies timeframes for the implementation of the matters—must implement the matters within those timeframes.
Part 2 Standard Conditions Division 3 Condition 11	Amendment of rehabilitation management plans The holder of a mining lease must amend the rehabilitation management plan for the mining lease as follows— (a) to substitute the proposed version of a rehabilitation outcome document with the version approved by the Secretary—within 30 days after the document is approved,
	(b) as a consequence of an amendment made under clause 14 to a rehabilitation outcome document—within 30 days after the amendment is made,
	(c) to reflect any changes to the risk control measures in the prepared plan that are identified in a rehabilitation risk assessment—as soon as practicable after the rehabilitation risk assessment is conducted,
	(d) whenever given a written direction to do so by the Secretary—in accordance with the direction.

Condition	Requirement
Part 2 Standard Conditions Division 3 Condition 12	Rehabilitation outcome documents (1) The holder of a mining lease must prepare the following documents (the *rehabilitation outcome documents*) for the mining lease and give them to the Secretary for approval—
	(a) the rehabilitation objectives statement, which sets out the rehabilitation objectives required to achieve the final land use for the mining area,
	(b) the rehabilitation completion criteria statement, which sets out criteria, the completion of which will demonstrate the achievement of the rehabilitation objectives,
	(c) for a large mine, the final landform and rehabilitation plan, showing a spatial depiction of the final land use.
	(2) If the final land use for the mining area is required by a condition of development consent for activities under the mining lease, the holder of the mining lease must ensure the rehabilitation outcome documents are consistent with that condition.
Part 2 Standard Conditions Division 3 Condition 13	Forward program and annual rehabilitation report (1) The holder of a mining lease must prepare a program (a forward program) for the mining lease that includes the following—
	(a) a schedule of mining activities for the mining area for the next 3 years,
	(b) a summary of the spatial progression of rehabilitation through its various phases for the next 3 years,
	(c) a requirement that the rehabilitation of land and water disturbed by mining activities under the mining lease must occur as soon as reasonably practicable after the disturbance occurs.
	(2) The holder of a mining lease must prepare a report (an annual rehabilitation report) for the mining lease that includes—
	(a) a description of the rehabilitation undertaken over the annual reporting period,
	(b) a report demonstrating the progress made through the phases of rehabilitation provided for in the forward program applying to the reporting period,
	(c) a report demonstrating progress made towards the achievement of the following—
	(i) the objectives set out in the rehabilitation objectives statement,
	(ii) the criteria set out in the rehabilitation completion criteria statement,
	(iii) for large mines—the final land use as spatially depicted in the final landform and rehabilitation plan.
	(3) If a rehabilitation outcome document has not been approved by the Secretary, the holder of the mining lease must rely on a proposed version of the document.

Condition	Requirement
	(4) The holder of the mining lease must give the forward program and annual rehabilitation report to the Secretary.
	(5) In this clause—*annual reporting* period means each period of 12 months commencing on—
	(a) the date on which the mining lease is granted, or
	(b) if the Secretary approves another date in relation to the mining lease—the other date.
Part 2 Standard Conditions Division 3 Condition 14	Amendment of rehabilitation outcome documents and forward program (1) This clause applies to—
	(a) a rehabilitation outcome document if it has been approved by the Secretary, and
	(b) a forward program if it has been given to the Secretary.
	(2) The holder of a mining lease must not amend a document to which this clause applies that relates to the mining lease unless
	(a) the Secretary gives the holder a written direction to do so, or
	(b) the Secretary, on written application by the holder, gives a written approval of the amendment.
	(3) The holder of the mining lease must amend the document in accordance with the Secretary's direction or approval.
	Nothing in this clause prevents the holder of a mining lease preparing a draft amendment for submission to the Secretary for approval.



APPENDIX C

Approved Rehabilitation Objectives Statement

NSW GOVERNMENT

NSW Resources Regulator

ROBJ0001296

APPROVED REHABILITATION OBJECTIVES STATEMENT

Wallerawang Quarry

MONDAY 20 NOVEMBER 2023

NSW Resources Regulator

Contents

Summary

DETAIL	APPROVAL
Reference	ROBJ0001296
Date of approval	Monday 20 November 2023
Mine	Wallerawang Quarry
Contact	Caroline Gazi

Important note

The Regulator may make the information in your application and any supporting information (including this approval) available for inspection by members of the public, including by publication on its website or by displaying the information at any of its offices. If you consider any part of your application to be confidential, please communicate this to the Regulator via the message function on this application within the Portal.

Rehabilitation Objectives

The following rehabilitation objectives have been approved.

FINAL LAND USE DOMAIN	MINING DOMAIN	SPECIFY OTHER DOMAIN	SPATIAL REF	REHABILITATION OBJECTIVE CATEGORY	REHABILITATION OBJECTIVES
Native Ecosystem	Infrastructure Area		A1	Bushfire	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.
Native Ecosystem	Infrastructure Area		A1	Ecological rehabilitation	The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area, including PCT 732 and 1093.
Native Ecosystem	Infrastructure Area		A1	Ecological rehabilitation	The vegetation composition of the rehabilitation contains species that are commensurate with native vegetation communities found in the local area, including PCT 732 and 1093.
Native Ecosystem	Infrastructure Area		A1	Ecological rehabilitation	Levels of ecosystem function have been established that demonstrate the rehabilitation is self-sustainable.
Native Ecosystem	Infrastructure Area		A1	Groundwater	Impacts to groundwater regime are within range as per the pre-mining environmental assessment.
Native Ecosystem	Infrastructure Area		A1	Groundwater	Groundwater quality is similar to or better than predicted in the pre-mining environmental assessments.
Native Ecosystem	Infrastructure Area		A1	Land contamination	Domain is safe, non-polluting, free from any hazardous materials and contaminants, and does not pose any hazard to the community
Native Ecosystem	Infrastructure Area		A1	Landform stability	Stable, permanent and non-polluting landform established
Native Ecosystem	Infrastructure Area		A1	Landform stability	The final landform integrates with and complements the surrounding topography

APPROVED REHABILITATION OBJECTIVES STATEMENT

ROBJ0001296 | Wallerawang Quarry

NSW Resources Regulator

FINAL LAND USE DOMAIN	MINING DOMAIN	SPECIFY OTHER DOMAIN	SPATIAL REF	REHABILITATION OBJECTIVE CATEGORY	REHABILITATION OBJECTIVES
Native Ecosystem	Infrastructure Area		A1	Management of waste and process materials	Residual waste materials will be appropriately removed or contained/encapsulated where necessary so it does not pose any hazards or constraints for intended land use.
Native Ecosystem	Infrastructure Area		A1	Removal of infrastructure	All buildings, infrastructure and services not required for lawful final land use decommissioned and removed
Native Ecosystem	Infrastructure Area		A1	Retention of infrastructure	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. Development Consent).
Native Ecosystem	Infrastructure Area		A1	Retention of infrastructure	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Native Ecosystem	Infrastructure Area		A1	Surface water	Runoff water quality is similar to or better than predicted in pre-mining environmental assessments and does not present a risk of environmental harm.
Native Ecosystem	Water Management Area		A3	Bushfire	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.
Native Ecosystem	Water Management Area		A3	Ecological rehabilitation	The vegetation composition of the rehabilitation contains species that are commensurate with native vegetation communities found in the local area, including PCT 732 and 1093.
Native Ecosystem	Water Management Area		A3	Ecological rehabilitation	Levels of ecosystem function have been established that demonstrate the rehabilitation is self-sustainable.
Native Ecosystem	Water Management Area		A3	Ecological rehabilitation	The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area, including PCT 732 and 1093.
Native Ecosystem	Water Management Area		A3	Groundwater	Groundwater quality is similar to or better than predicted in the pre-mining environmental assessments.

APPROVED REHABILITATION OBJECTIVES STATEMENT

ROBJ0001296 | Wallerawang Quarry

NSW Resources Regulator

FINAL LAND USE DOMAIN	MINING DOMAIN	SPECIFY OTHER DOMAIN	SPATIAL REF	REHABILITATION OBJECTIVE CATEGORY	REHABILITATION OBJECTIVES
Native Ecosystem	Water Management Area		A3	Groundwater	Impacts to groundwater regime are within range as per the pre-mining environmental assessment.
Native Ecosystem	Water Management Area		A3	Land contamination	Domain is safe, non-polluting, free from any hazardous materials and contaminants, and does not pose any hazard to the community
Native Ecosystem	Water Management Area		A3	Landform stability	The final landform integrates with and complements the surrounding topography
Native Ecosystem	Water Management Area		A3	Landform stability	Stable, permanent and non-polluting landform established
Native Ecosystem	Water Management Area		A3	Management of waste and process materials	Residual waste materials will be appropriately removed or contained/encapsulated where necessary so it does not pose any hazards or constraints for intended land use.
Native Ecosystem	Water Management Area		A3	Removal of infrastructure	All buildings, infrastructure and services not required for lawful final land use decommissioned and removed
Native Ecosystem	Water Management Area		A3	Retention of infrastructure	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. Development Consent).
Native Ecosystem	Water Management Area		A3	Retention of infrastructure	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Native Ecosystem	Water Management Area		A3	Surface water	Runoff water quality is similar to or better than predicted in pre-mining environmental assessments and does not present a risk of environmental harm.
Native Ecosystem	Active Mining Area (Open cut void)		A5	Bushfire	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.

APPROVED REHABILITATION OBJECTIVES STATEMENT

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FINAL LAND USE DOMAIN	MINING DOMAIN	SPECIFY OTHER DOMAIN	SPATIAL REF	REHABILITATION OBJECTIVE CATEGORY	REHABILITATION OBJECTIVES
Native Ecosystem	Active Mining Area (Open cut void)		A5	Ecological rehabilitation	The vegetation composition of the rehabilitation contains species that are commensurate with native vegetation communities found in the local area, including PCT 732 and 1093.
Native Ecosystem	Active Mining Area (Open cut void)		A5	Ecological rehabilitation	Levels of ecosystem function have been established that demonstrate the rehabilitation is self-sustainable.
Native Ecosystem	Active Mining Area (Open cut void)		A5	Ecological rehabilitation	The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area, including PCT 732 and 1093.
Native Ecosystem	Active Mining Area (Open cut void)		A5	Groundwater	Impacts to groundwater regime are within range as per the pre-mining environmental assessment.
Native Ecosystem	Active Mining Area (Open cut void)		A5	Groundwater	Groundwater quality is similar to or better than predicted in the pre-mining environmental assessments.
Native Ecosystem	Active Mining Area (Open cut void)		A5	Land contamination	Domain is safe, non-polluting, free from any hazardous materials and contaminants, and does not pose any hazard to the community
Native Ecosystem	Active Mining Area (Open cut void)		A5	Landform stability	The final landform integrates with and complements the surrounding topography
Native Ecosystem	Active Mining Area (Open cut void)		A5	Landform stability	Stable, permanent and non-polluting landform established
Native Ecosystem	Active Mining Area (Open cut void)		A5	Removal of infrastructure	All buildings, infrastructure and services not required for lawful final land use decommissioned and removed
Native Ecosystem	Active Mining Area (Open cut void)		A5	Retention of infrastructure	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.

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FINAL LAND USE DOMAIN	MINING DOMAIN	SPECIFY OTHER DOMAIN	SPATIAL REF	REHABILITATION OBJECTIVE CATEGORY	REHABILITATION OBJECTIVES
Native Ecosystem	Active Mining Area (Open cut void)		A5	Surface water	Runoff water quality is similar to or better than predicted in pre-mining environmental assessments and does not present a risk of environmental harm.
Native Ecosystem	Beneficiation Facility		A7	Bushfire	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.
Native Ecosystem	Beneficiation Facility		A7	Ecological rehabilitation	Levels of ecosystem function have been established that demonstrate the rehabilitation is self-sustainable.
Native Ecosystem	Beneficiation Facility		A7	Ecological rehabilitation	The vegetation composition of the rehabilitation contains species that are commensurate with native vegetation communities found in the local area, including PCT 732 and 1093.
Native Ecosystem	Beneficiation Facility		A7	Ecological rehabilitation	The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area, including PCT 732 and 1093.
Native Ecosystem	Beneficiation Facility		A7	Groundwater	Impacts to groundwater regime are within range as per the pre-mining environmental assessment.
Native Ecosystem	Beneficiation Facility		A7	Groundwater	Groundwater quality is similar to or better than predicted in the pre-mining environmental assessments.
Native Ecosystem	Beneficiation Facility		A7	Land contamination	Domain is safe, non-polluting, free from any hazardous materials and contaminants, and does not pose any hazard to the community
Native Ecosystem	Beneficiation Facility		A7	Landform stability	Stable, permanent and non-polluting landform established
Native Ecosystem	Beneficiation Facility		A7	Landform stability	The final landform integrates with and complements the surrounding topography

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FINAL LAND USE DOMAIN	MINING DOMAIN	SPECIFY OTHER DOMAIN	SPATIAL REF	REHABILITATION OBJECTIVE CATEGORY	REHABILITATION OBJECTIVES
Native Ecosystem	Beneficiation Facility		A7	Management of waste and process materials	Residual waste materials will be appropriately removed or contained/encapsulated where necessary so it does not pose any hazards or constraints for intended land use.
Native Ecosystem	Beneficiation Facility		A7	Removal of infrastructure	All buildings, infrastructure and services not required for lawful final land use decommissioned and removed
Native Ecosystem	Beneficiation Facility		A7	Retention of infrastructure	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. Development Consent).
Native Ecosystem	Beneficiation Facility		A7	Retention of infrastructure	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Native Ecosystem	Beneficiation Facility		A7	Surface water	Runoff water quality is similar to or better than predicted in pre-mining environmental assessments and does not present a risk of environmental harm.
Water Management Areas	Infrastructure Area		F1	Land contamination	Domain is safe, non-polluting, free from any hazardous materials and contaminants, and does not pose any hazard to the community
Water Management Areas	Infrastructure Area		F1	Landform stability	Stable, permanent and non-polluting landform established
Water Management Areas	Infrastructure Area		F1	Landform stability	The final landform integrates with and complements the surrounding topography
Water Management Areas	Infrastructure Area		F1	Removal of infrastructure	All buildings, infrastructure and services not required for lawful final land use decommissioned and removed
Water Management Areas	Infrastructure Area		F1	Retention of infrastructure	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. Development Consent).

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FINAL LAND USE DOMAIN	MINING DOMAIN	SPECIFY OTHER DOMAIN	SPATIAL REF	REHABILITATION OBJECTIVE CATEGORY	REHABILITATION OBJECTIVES
Water Management Areas	Infrastructure Area		F1	Retention of infrastructure	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Water Management Areas	Infrastructure Area		F1	Surface water	Runoff water quality is similar to or better than predicted in pre-mining environmental assessments and does not present a risk of environmental harm.
Infrastructure	Infrastructure Area		I1	Land contamination	Domain safe and free from hazardous materials and contaminants
Infrastructure	Infrastructure Area		I1	Landform stability	Stable, permanent and non-polluting landform established
Infrastructure	Infrastructure Area		I1	Landform stability	The final landform integrates with and complements the surrounding topography
Infrastructure	Infrastructure Area		I1	Retention of infrastructure	Site entrance and sealed access road retained
Infrastructure	Infrastructure Area		I1	Surface water	Runoff water quality is similar to or better than predicted in pre-mining environmental assessments and does not present a risk of environmental harm.
Final Void	Active Mining Area (Open cut void)		J5	Bushfire	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.
Final Void	Active Mining Area (Open cut void)		J5	Groundwater	Impacts to groundwater regime are within range as per the pre-mining environmental assessment.
Final Void	Active Mining Area (Open cut void)		J5	Groundwater	Groundwater quality is similar to or better than predicted in the pre-mining environmental assessments.
Final Void	Active Mining Area (Open cut void)		J5	Land contamination	Domain is safe, non-polluting, free from any hazardous materials and contaminants, and does not pose any hazard to the community

FINAL LAND USE DOMAIN	MINING DOMAIN	SPECIFY OTHER DOMAIN	SPATIAL REF	REHABILITATION OBJECTIVE CATEGORY	REHABILITATION OBJECTIVES
Final Void	Active Mining Area (Open cut void)		J5	Landform stability	Stable, permanent and non-polluting landform established
Final Void	Active Mining Area (Open cut void)		J5	Removal of infrastructure	All plant decommissioned and surplus stockpiles removed
Final Void	Active Mining Area (Open cut void)		J5	Surface water	Runoff water quality is similar to or better than predicted in pre-mining environmental assessments and does not present a risk of environmental harm.
Final Void	Active Mining Area (Open cut void)		J5	Water approvals	Structures that take or divert water such as final voids, dams, levees etc. are appropriately licensed (e.g. under the Water Management Act 2000) where required. As required ensure sufficient licence shares are held in the water source(s) to account for water take.

APPENDIX D

Evidence of Stakeholder Consultation