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ABN: 52 000 005 550

Rehabilitation Management Plan

for

Horsley Park Plant 23 Quarry

Compiled by:

RWCorkery&co

August 2022

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Rehabilitation Management Plan

for the

Horsley Park Plant 23 Quarry

Prepared for:

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Summary Table

Name of Mine		Horsley Park Plant 23 Quarry		
RMP Commencement Date		1 July 2018		
Mineral Authorities		M(MO)L7	**Expiry Date**	30/06/25
Name of Leaseholder		Austral Brick Company Pty Limited		
Version	**Author**	**Purpose**	**Approved by**	**Date of Submission**
1	S. Hollamby	New Document	Peter Young-Whitford	8 August 2022

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PLANS

LIST OF ACRONYMS

AHD	Australian height datum
AHIMS	Aboriginal Heritage Information Management System
EPA	NSW Environment Protection Authority
LGA	Local Government Area
RMP	Rehabilitation Management Plan
SEPP	State Environmental Planning Policy
VENM	Virgin Extracted Natural Material
WMP	Water Management Plan

1. INTRODUCTION TO MINING PROJECT

This Rehabilitation Management Plan (RMP) has been prepared in accordance with the following documents and guidelines.

- *Form and Way: Rehabilitation Management Plan for Large Mines (July 2021).*
- *Form and Way: Rehabilitation Objectives, Rehabilitation Completion Criteria and Final Landform and Rehabilitation Plan for Large Mines (July 2021).*
- *Guideline 1: Rehabilitation Risk Assessment (July 2021).*
- *Guideline 2: Rehabilitation Records (July 2021).*
- *Guideline 3: Rehabilitation Controls (July 2021).*
- *Guideline 5: Rehabilitation Objectives and Rehabilitation Completion Criteria (July 2021).*

1.1 HISTORY OF OPERATIONS

1.1.1 Summary of Previous Activities

The Horsley Park Plant 23 Quarry ("the Quarry") is located approximately 4km west of Prospect Reservoir in western Sydney (see **Figure 1**) adjacent to the Horsley Park Brick Plant 23 ("Plant 23").

The Austral Brick Company Pty Limited ("Austral Bricks") has undertaken extraction operations within the Quarry since Development Consent was granted by, then, Blacktown Shire Council[1] (Permit No 1340, 12 July 1971). The Quarry was established to provide a range of clay/shale raw materials for use in the manufacture of bricks, principally Plant 23 and the adjoining Horsley Park Brick Plants 21/22 (Plants 21/22). Maximum annual production levels at Plant 23 are approximately 130 million bricks, for which approximately 530,000t of clay/shale is required annually. Traditionally, the raw materials for brick manufacture at Plant 23 have been recovered from the adjoining Quarry, however raw materials have also been imported to the site from external sources, i.e. from waste landfills or building construction and infrastructure project sites around Sydney. Notwithstanding the importation of various raw materials from external sources, including other licenced quarries, clay/shale materials extracted from the Quarry underpin the ongoing brick production at Plant 23.

Activities at the Quarry since 1971 have included the following.

- Construction and operation of a brick manufacturing plant.
- Development of the Quarry.
- Establishment of intermediate[2] raw material stockpiles for clay/shale extracted on site or imported from waste landfills, building construction and infrastructure project sites or from licenced quarries.

[1] The Quarry is now located in the Fairfield Local Government Area (LGA) since a boundary adjustment occurred between the Blacktown and Fairfield LGAs.

[2] Intermediate stockpiles are stockpiles of clay/shale from a single source extracted on site or delivered from another source off site. Materials from these stockpiles are subsequently recovered for use in the construction of 'blended stockpiles' prepared for a particular brick mix.

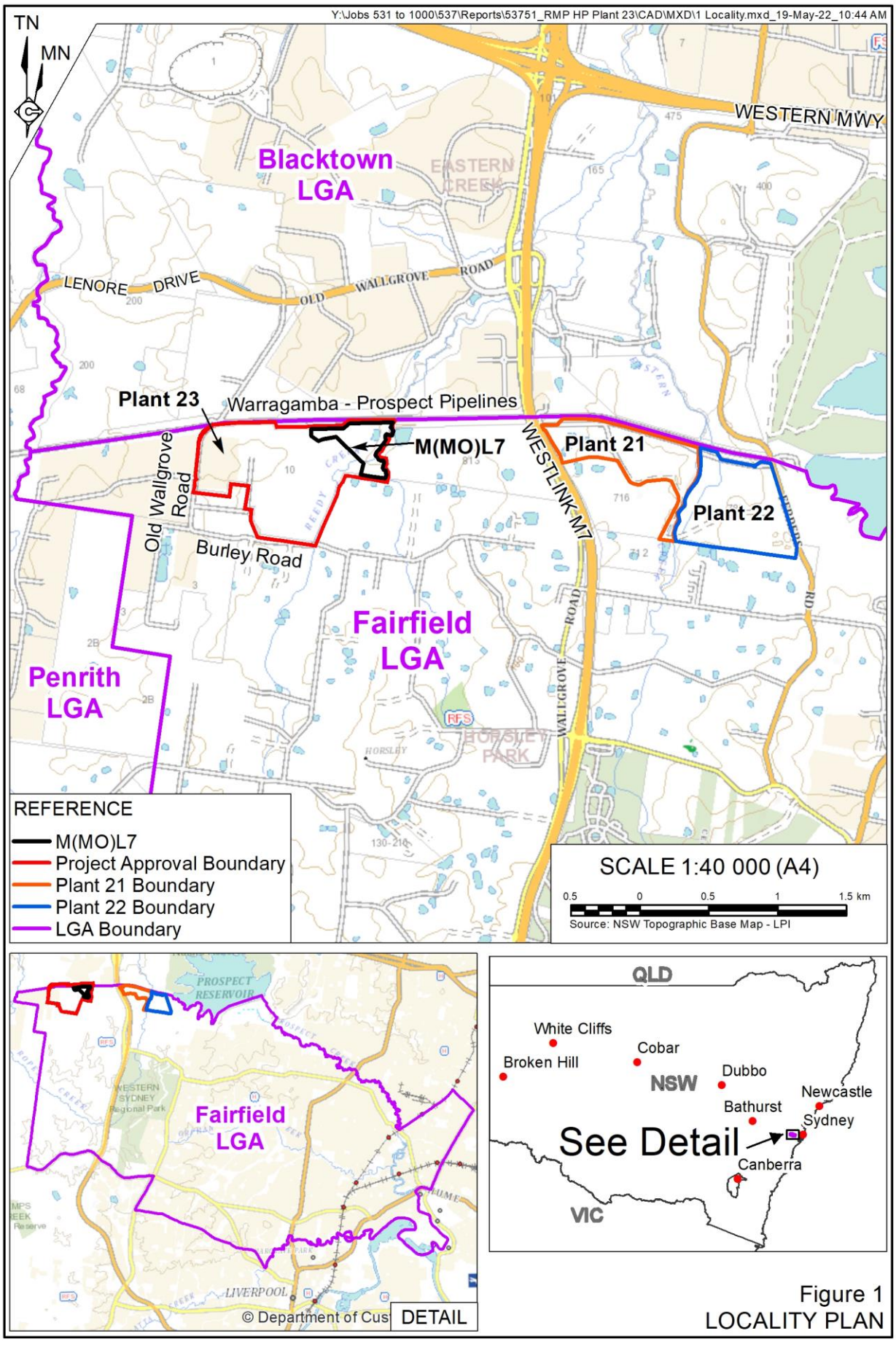


Figure 1
LOCALITY PLAN

- Establishment of blended raw material stockpiles.
- Construction and maintenance of internal haul roads.
- Management of surface water, including water recycling.
- Two partial relinquishments of M(MO)L7, including the subdivision of Lot 1 DP843901, the development of the industrial area known as Oakdale East and the development of the former extraction areas Quarry "West" and Quarry "Central". The first partial relinquishment was approved 9 June 2020 whilst the second partial relinquishment remains pending (noting that this RMP has been written for the proposed retained area).

This *Rehabilitation Management Plan* covers the approved and proposed operational and rehabilitation activities within the proposed area of M(MO)L7 (10.76ha), hereafter referred to as the "RMP Area". Rehabilitation of land outside of the RMP Area, namely historical surface disturbances outside the boundary of M(MO)L7 is not covered in this document unless specified.

1.1.2 Exploration and Extraction

Extraction and other operations within the RMP Area are undertaken entirely within the boundary of M(MO)L7 (**Figure 2**).

The RMP Area comprises a total of approximately 10.76ha, consisting of an Extraction Area, an internal road, water management infrastructure, setbacks from Reedy Creek, and areas that have previously undergone rehabilitation.

The following design criteria has been generally adopted[3] for the Quarry.

- Operational bench heights between 4m and 15m with included ramps.
- Operational bench widths at least 25m wide.
- Batters typically maintained at a slope of up to 1:1 (V:H) for faces formed in clay and brown shale and up to 1:0.6 (V:H) for faces in the unweathered blue shale.
- The pit floor is graded so that surface water is directed into the active sump.
- All pit access / haul roads have a slope of ≤ 1:10 V:H with minimum 1.2m high safety bunding where a fall risk and/or risk of edge failure is present.
- Safety bunding is formed as required around highwalls approximately 1.2m high and with a footprint approximately 3m wide.

[3] The ultimate design criteria will be determined between the Raw Materials and Mining Manager and earthmoving contractor based on site and operational conditions and any relevant advice, e.g. geotechnical.

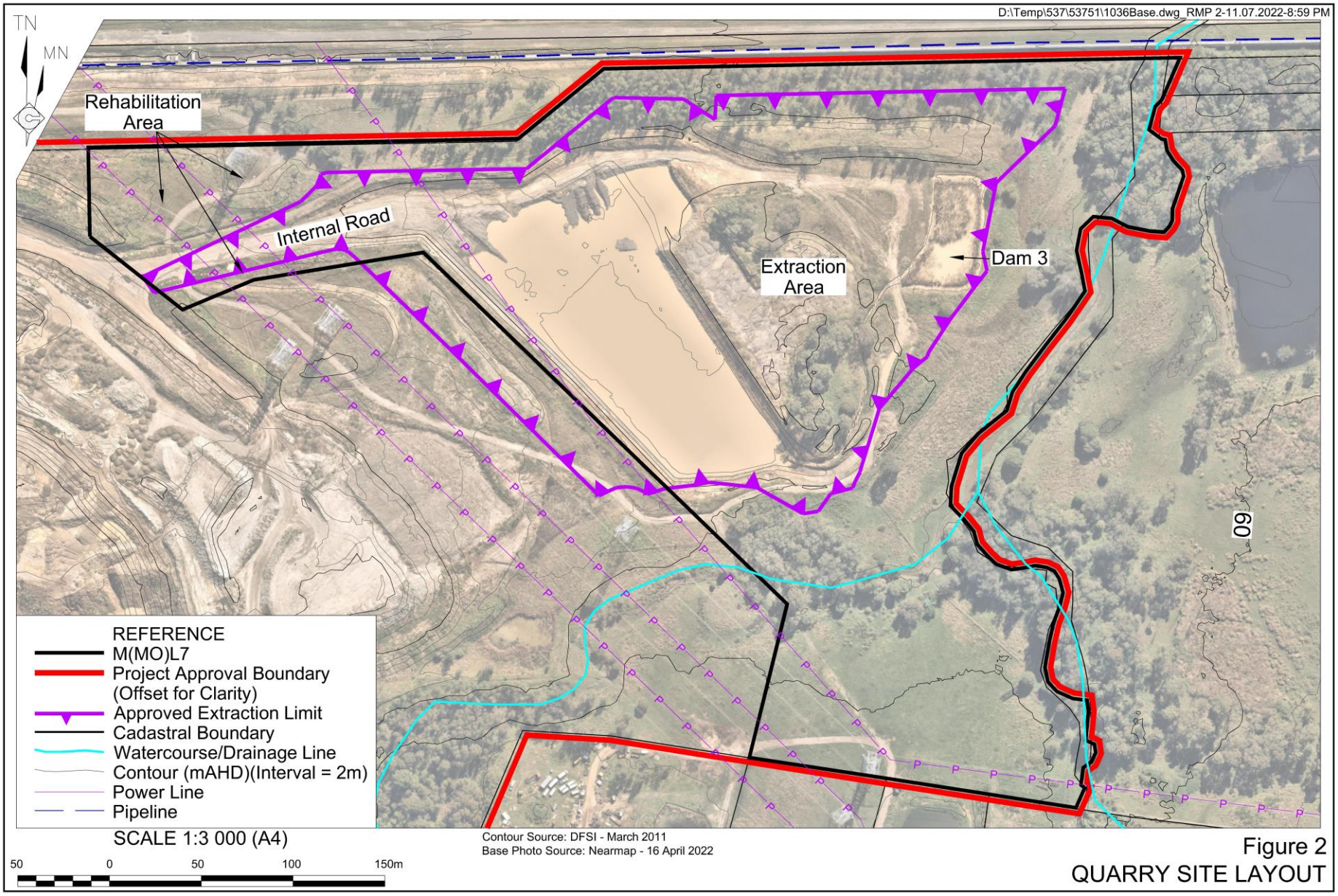


Figure 2
QUARRY SITE LAYOUT

1.1.3 Material Importation and Management

The following material handling procedures are undertaken within the RMP Area.

- Stockpiling and blending of clay/shale extracted from the Quarry for use at Plant 23, in Plants 21 or 22 located on the eastern side of the M7 Motorway (see **Figure 1**) or at Austral Bricks Punchbowl or Bowral brick manufacturing plants.
- Stockpiling of clay/shale previously or currently being delivered to the Quarry from waste landfills or building construction and infrastructure project sites. It is noted that these raw materials are stored as intermediate stockpiles in defined areas within Lot 1 DP843901 but beyond the boundary of M(MO)L7.
- Blending of clay/shale recovered either directly from the Quarry or from intermediate stockpiles. The blending is achieved through placement of each clay/shale type in layers typically between 0.3m and 1m in thickness.
- Receipt of Virgin Extracted Natural Material (VENM) for use in backfilling of completed extraction areas.

1.1.4 Rehabilitation and Partial Relinquishment

The Quarry has been operating since 1971 with a number of areas achieving final landform status. The following provides a description of final landform activities within the broader Quarry Site undertaken to date.

- Removal of historic fill materials containing waste and encapsulation of the waste within Lot 1 DP843901 but beyond the boundary of M(MO)L7 in accordance with the relevant State and local planning requirements and an approved Remedial Action Plan (JBS&G, 2019).
- Preparatory works, including relocation of raw material stockpiles and subsequent cut and fill works, consistent with the subsequent Oakdale East Stage 1 development within the southwestern corner of the (then) M(MO)L7.
- Approval for the partial relinquishment of the area associated with Oakdale East Stage 1 on 9 June 2020.
- Application for further partial relinquishment of areas associated with Oakdale East Stages 2 to 4 with subsequent earthworks and development to be completed in accordance with DA347.1/2021.

1.2 CURRENT DEVELOPMENT CONSENTS, LEASES AND LICENCES

Table 1 provides information on the current development consents, authorisations and licences under which the Quarry operates.

Table 1
Consents, Authorisations and Licences

Approval / Lease / Licence	Issue Date	Expiry Date	Details / Comments
Development Consent 1340	12/07/1971	Nil	Originally issued by Blacktown Shire Council. The consent is now administered by Fairfield City Council following an adjustment of the LGA boundaries.
Development Consent 129/92	18/06/1993	Nil	Issued for extraction operations beneath powerlines.
Development Consent 313/82 (as modified)	10/10/1990	Nil	Issued by Fairfield City Council. Whilst this consent was sought for a modification of the Plant 23 factory building, Council also included eight conditions in an addendum relating to operations within the adjoining quarry.
M(MO)L7*	04/04/2018	04/04/2039	This lease was granted in response to M(MO)LA27, covers an area of 55.04ha and permits mining of clay / shale, kaolin and structural clay minerals. A further partial relinquishment has been lodged with a proposed retained area of 10.76ha – approval remains pending.
Environment Protection Licence 546	10/03/2000	Renewed Annually 31 October	Issued by the NSW Environment Protection Authority (EPA). Current licence version dated 23/11/2021. EPL 546 applies to Plants 21, 22, and 23 and associated extraction operations.
*see **Figure 2**			

1.3 LAND OWNERSHIP AND LAND USE

1.3.1 Land Ownership and Land Use Figure

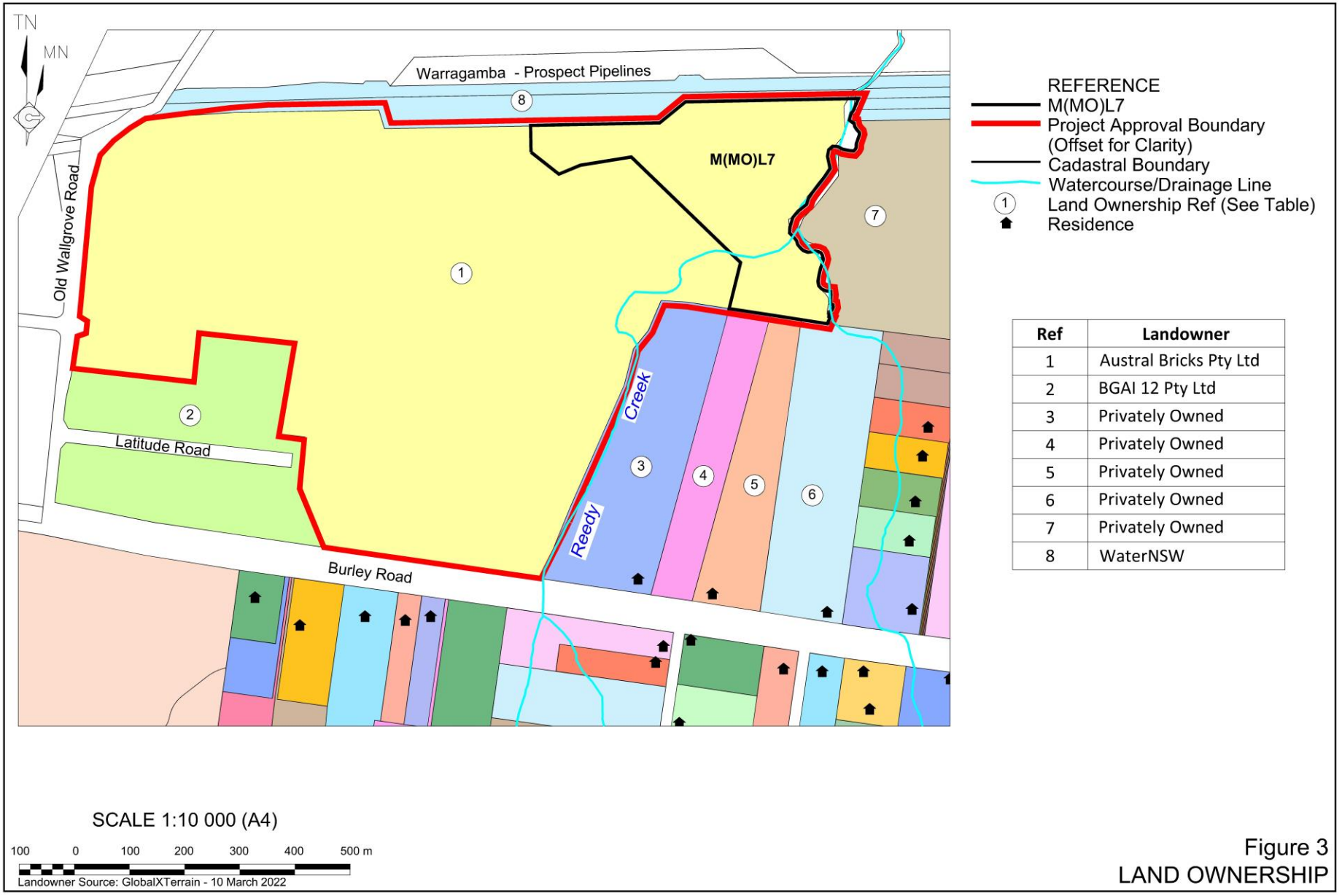
Land Ownership

Table 2 and **Figure 3** presents the land ownership for land within and adjacent to the Quarry Site. In summary, the Quarry is wholly located within the eastern extent of Lot 103 DP1268366 which is freehold land owned by Austral Bricks.

Adjoining land ownership to the east of Lot 103 DP1268366 is freehold, whereas the western and southern boundaries are adjoined by the public roads Old Wallgrove Road and Burley Road respectively. The land adjoining Lot 103 DP1268366 to the north is owned by Water NSW and is used for the Warragamba – Prospect Water Supply Pipelines.

Land Use

Prior to the establishment of the Quarry, areas within and in the vicinity of the Quarry were subject to disturbance associated with mixed intensity agricultural cropping, grazing and horticulture. **Figure 4** presents land uses in the vicinity of the Quarry and **Figure 5** presents the natural and built environments in the vicinity of the Quarry Site. **Figure 6** presents land zoning in the vicinity of the Quarry Site.



Ref	Landowner
1	Austral Bricks Pty Ltd
2	BGAI 12 Pty Ltd
3	Privately Owned
4	Privately Owned
5	Privately Owned
6	Privately Owned
7	Privately Owned
8	WaterNSW

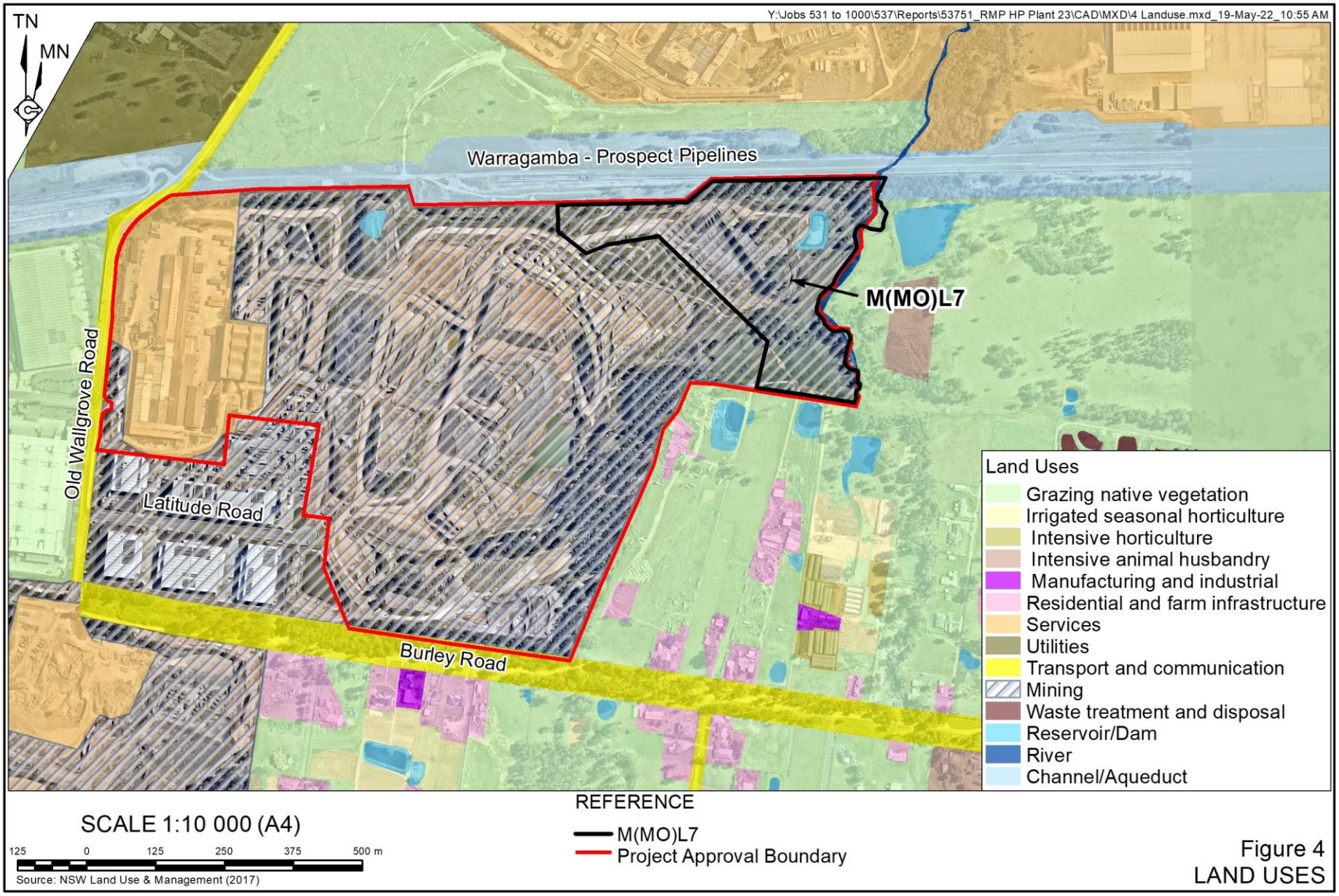
Figure 3
LAND OWNERSHIP

Table 2
Land Ownership

Lot	Deposited Plan	Tenure	Owner	Leases
Quarry Site				
103	1268366	Freehold	Austral Bricks Pty Ltd	M(MO)L7
Land Adjacent to the Quarry Site				
2	87907	Freehold	Water NSW	N/A
102	1268366	Freehold	BGAl 12 Pty Ltd	N/A
A	104673	Freehold	Privately Owned	N/A
B	104673	Freehold	Privately Owned	N/A
237	13905	Freehold	Privately Owned	N/A
239	13905	Freehold	Privately Owned	N/A
100	1268340	Freehold	Privately Owned	N/A

Land uses in the vicinity of the Quarry Site include the following.

- Clay/shale extraction and brick manufacture (PGH) to the south and southwest of the Quarry Site.
- Services and commercial uses, including warehouses and product distribution centres (the west of Old Wallgrove Road and north of the Warragamba – Prospect Water Supply Pipelines.
- Rural-residential housing and home industries to the south of Burley Road.
- Rural-residential housing and agriculture (market gardens and piggery) to the east of the Quarry Site.


Y:\Jobs 531 to 1000\537\Reports\53751_RMP HP Plant 23\CAD\MXD\4 Landuse.mxd_19-May-22_10:55 AM
TN
MN
Warragamba - Prospect Pipelines
M(MO)L7
Old Wallgrove Road
Latitude Road
Burley Road
Land Uses
Grazing native vegetation
Irrigated seasonal horticulture
Intensive horticulture
Intensive animal husbandry
Manufacturing and industrial
Residential and farm infrastructure
Services
Utilities
Transport and communication
Mining
Waste treatment and disposal
Reservoir/Dam
River
Channel/Aqueduct
SCALE 1:10 000 (A4)
125 0 125 250 375 500 m
Source: NSW Land Use & Management (2017)
REFERENCE
M(MO)L7
Project Approval Boundary
Figure 4
LAND USES

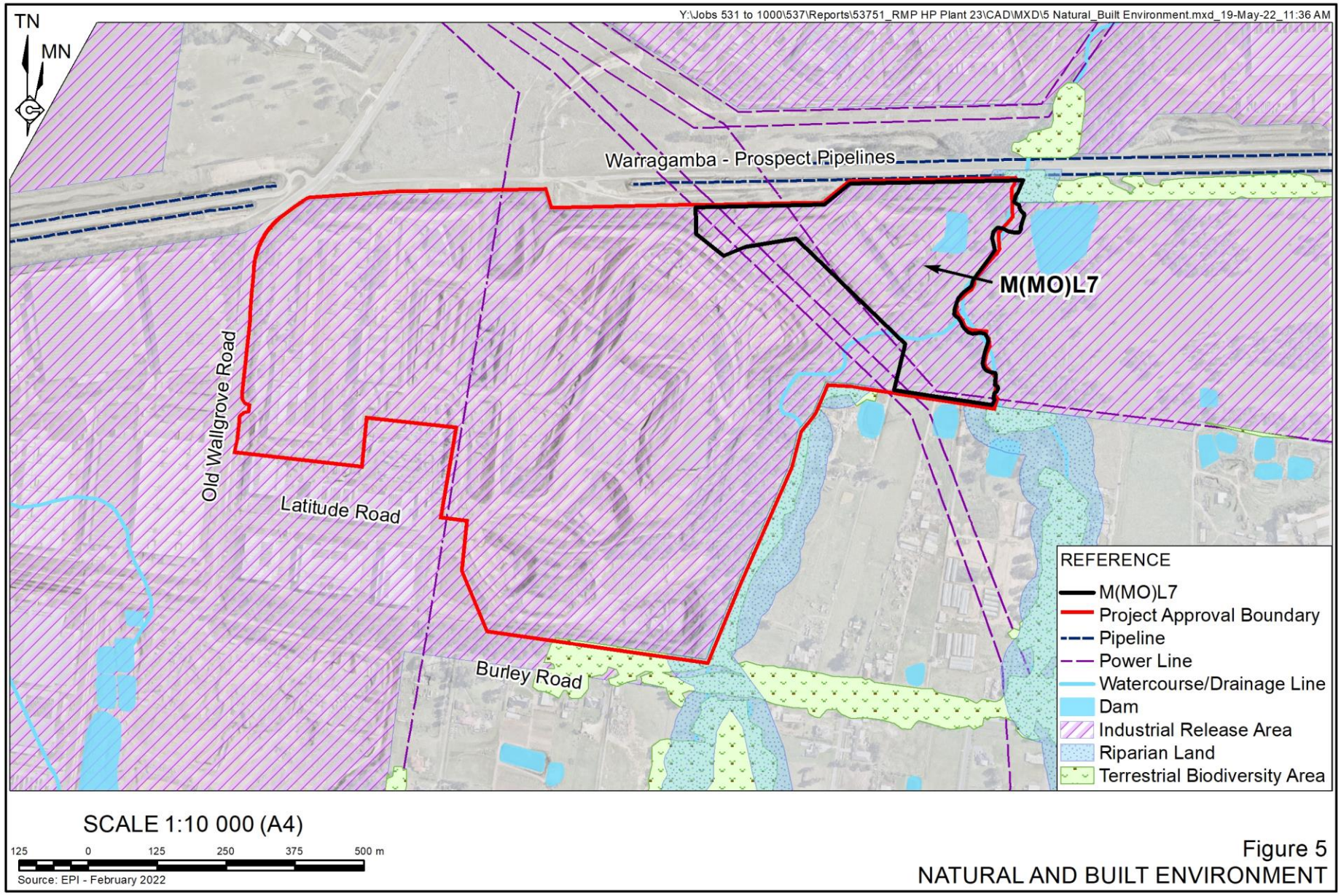


Figure 5
NATURAL AND BUILT ENVIRONMENT

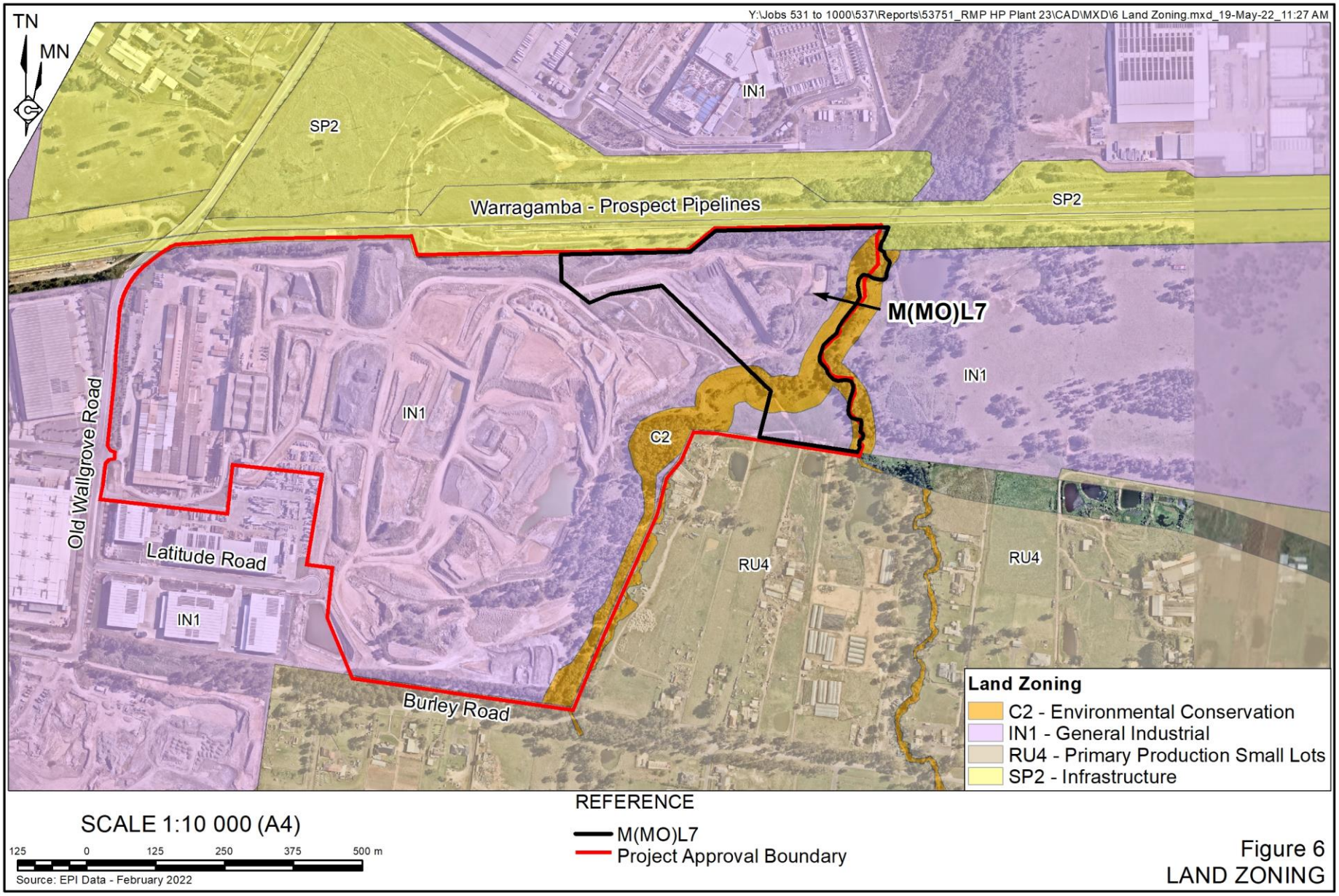


Figure 6
LAND ZONING

2. FINAL LAND USE OPTIONS ASSESSMENT

2.1 REGULATORY REQUIREMENTS FOR REHABILITATION

Regulatory requirements specifically affecting the progress towards the post mining land use are detailed in **Table 3**. It is noted that these regulatory requirements were included in development consents that are considered dated (i.e., >50 years) and do not reflect current expectations of appropriate land uses. As a result, only those conditions considered relevant and / or that can be practically implemented have been included in **Table 3**.

It is important that the final land use is established well before extraction ceases to ensure the rehabilitated final landform is not an environmental liability and provides for a useful productive land use, particularly given the NSW Government's commitments to the Western Sydney Employment Area. This is discussed further in Section 2.2. This future land use has been confirmed through the receipt of additional development consents DA 93.1/2019 and DA 347.1/2021 issued for the Oakdale East Estate Stages 1 to 4. The subsequent land use development has/will occur following the partial relinquishment of M(MO)L7.

2.2 FINAL LAND USE OPTIONS ASSESSMENT

The Quarry is located within land identified as the Western Sydney Employment Area under the *State Environmental Planning Policy (Industry and Employment) 2021* (Industry and Employment SEPP). Clause 2.1(2) of the Industry and Employment SEPP outlines the following aims for the Western Sydney Employment Area.

> *(a) "To promote economic development and the creation of employment in the Western Sydney Employment Area by providing for development including major warehousing, distribution, freight transport, industrial, high technology and research facilities.*
>
> *(b) To provide for the co-ordinated planning and development of land in the Western Sydney Employment Area.*
>
> *(c) To rezone land for employment, environmental conservation or recreation purposes.*
>
> *(d) To improve certainty and regulatory efficiency by providing a consistent planning regime for future development and infrastructure provision in the Western Sydney Employment Area.*
>
> *(e) To ensure that development occurs in a logical, environmentally sensitive and cost-effective manner and only after a development control plan (including specific development controls has been prepared for the land concerned.*
>
> *(f) To conserve and rehabilitate areas that have high biodiversity or heritage or cultural value, in particular areas of remnant vegetation."*

Table 3
Regulatory Requirements for Rehabilitation

Consent	Condition No.	Requirement	Area	Timing	RMP Section
Consent – Permit No. 1340 (Issued 12/07/1971)	12	Within fourteen (14) days of the restoration of the lands, all plant shall be completely removed therefrom, and, within such period, the lands shall be left in a clean and tidy condition and free from all debris and to the satisfaction and approval of the Council.	All Domains	During decommissioning and rehabilitation.	6.2.2
	6c	Upon completion of the restoration works trees of an approved type shall be planted and grown in positions directed by or on behalf of the Council either by written instruction or by compliance with an approved plan and schedule of plantings adopted under the terms of the consent to preserve the future amenity of the land.		During operation and rehabilitation.	6.2.5 and 6.2.6
	7	Subject to the provisions of Part II of the Water Act, 1912-1955[4], every natural watercourse existing on the lands before any excavation or work are carried out thereon and which is interfered with or affected by any excavation or works on the lands, shall upon restoration of those lands, be restored in accordance with any directions given by or on behalf of the Council, and during or after completion of the works and pending or upon the restoration of the lands, proper provision shall be made at all times by means of channels, drains or otherwise as directed from time to time by or on behalf of the Council, for the passage and running of all water and drainage which would have run in the course of a natural water course if the same had not been so interfered with or affected, and at all times during the works and the restoration of the lands all water and drainage passing and running on and from the lands shall be kept free from pollution and obstruction.		During operation, and rehabilitation.	NA (no watercourses affected by Quarry activities)
Consent – Permit No. 1340 (Issued 12/07/1971)	17	For the due and proper performance and observance of all conditions, the applicant, before commencing any works on the land shall, without expense to the Council, furnish to the Council a bond in the sum of $10,000 in a form prepared by or on behalf of the Council, and duly executed by the applicant and two sureties approved by Council.		Prior to commencement of operations.	No Longer Applicable (Rehabilitation Security held by DRNSW)
DA 129/92 (Issued 18/06/1993)	18	All disturbed surface areas other than the walls and floors of the pit and exposed faces of stockpile areas must be temporarily revegetated to control surface erosion in the period of minimal or nil use.		During rehabilitation.	6.2
	20	All "overburden" stockpiling areas to be revegetated immediately after placement.		During operation rehabilitation.	NA – No overburden stockpiles
	21	The walls and floors of each pit are to be battered, graded and revegetated upon cessation of extraction of that pit.			6.2.3
	22	All disturbed areas surrounding the quarry pits from which water could discharge into a natural watercourse must be revegetated to control sediment movement during the periods of minimum or nil quarry activities. During quarrying these areas are to be drained into retention settlement basins prior to discharge into the natural watercourse.			6.2.5, 6.2.6
M(MO)L7	4	**Must prevent or minimise harm to the 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*.	All Domains	During operation and rehabilitation.	6.2
	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 mining activities under the mining lease as soon as reasonably practicable after the disturbance occurs.			6.2
	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 a 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 final land uses to be achieved for the mining area – (a) as set out in the rehabilitation objectives statement and rehabilitation completion criteria statement, and		During rehabilitation.	2, 6.1

[4] Part 2 of the *Water Act 1912* has been superseded by Chapter 3 of the *Water Management Act 2000*.

Table 3 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent	Condition No.	Requirement	Area	Timing	RMP Section
M(MO)L7 (Cont'd)		(b) for a large mine – as spatially depicted in the final landform and rehabilitation plan, and (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.			
	7	**Rehabilitation 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, and (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.		During construction, operation and rehabilitation.	3
	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.			11
	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.			All Sections
	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. (a)			This Plan

Table 3 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent	Condition No.	Requirement	Area	Timing	RMP Section
M(MO)L7 (Cont'd)		(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.			
	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.			11
	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.			4, 5
	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. (1) 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. (2) The holder of the mining lease must give the forward program and annual rehabilitation report to the Secretary. (3) 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			11

Table 3 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent	Condition No.	Requirement	Area	Timing	RMP Section
M(MO)L7 (Cont'd)	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. (4) Nothing in this clause prevents the holder of a mining lease preparing a draft amendment for submission to the Secretary for approval.			10, 11
	15	**Times at which documents must be prepared and given** (1) The holder of a mining lease must do the following before the end of the initial period— (a) prepare a rehabilitation management plan, and (b) prepare rehabilitation outcome documents and give them, other than the rehabilitation completion criteria statement, to the Secretary for approval, and (c) prepare a forward program and give it to the Secretary. (2) The holder of the mining lease must prepare a forward program and annual rehabilitation report and give them to the Secretary before— (a) 60 days after the last day of each annual reporting period, commencing with the annual reporting period in which the forward program was given to Secretary under subclause (1)(c), or (b) a later date approved by the Secretary. (3) A rehabilitation completion criteria statement relating to completion of rehabilitation during a period covered by a forward program must be given to the Secretary for approval when the forward program is required to be given to the Secretary. (4) The holder of the mining lease must prepare updated rehabilitation outcome documents for the mining lease and give them to the Secretary for approval before— (a) 60 days after a development consent is modified following an application referred to in clause 20(1)(b), or (b) a later date approved by the Secretary. (5) A rehabilitation completion criteria statement is not required to be given to the Secretary under subclause (4) unless a rehabilitation completion criteria statement has already been given to the Secretary under subclause (3). (6) The Secretary may, by written notice, direct the holder of a mining lease to prepare, or give to the Secretary, a document required to be prepared under this Division at a time other than that specified in this clause. (7) The holder of the mining lease must comply with the direction. (8) In this clause— initial period means the period commencing when the mining lease is granted and ending— (a) 30 days, or other period approved by the Secretary, after this Division first applies to the mining lease, or (b) if this Division applies to the mining lease because of an increase in the required security deposit— (i) when the surface of the mining area is disturbed by activities under the mining lease, or (ii) at a later date approved by the Secretary.			11

Table 3 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent	Condition No.	Requirement	Area	Timing	RMP Section
M(MO)L7 (Cont'd)	16	**Certain documents to be publicly available** (1) This clause applies to the following documents— (a) a rehabilitation management plan, (b) a forward program, (c) an annual rehabilitation report. (2) The holder of a mining lease must make a document to which this clause applies publicly available by— (a) publishing it on its website in a prominent position, or (b) if the holder does not have a website— providing a copy of it to a person— (i) on the written request of a person, and (ii) without charge, and (iii) within 14 days after the request is received. (3) If a document is published on the website of the holder of the mining lease, the holder must ensure that it is published— (a) for a rehabilitation management plan—within 14 days after it is prepared or amended, or (b) for a forward program or an annual rehabilitation report—within 14 days after it is given to the Secretary or amended, (4) Personal information within the meaning of the *Privacy and Personal Information Protection Act 1998* is not required to be included in a document made available to a person under this clause.			Noted
	17	**Records demonstrating compliance** The holder of a mining lease must create and maintain records of all actions taken that demonstrate compliance with each of the conditions set out in this Part. **Note—** The Act, sections 163D and 163E provide for the form in which records must be kept and the period for which they must be retained.			7
	18	**Report on non-compliance** (1) The holder of a mining lease must provide the Minister with a written report detailing any non-compliance with— (a) a condition of the mining lease, or Note— The Act, section 364A contains provisions relating to the use and disclosure of information provided under this condition. (b) a requirement of the Act or this Regulation relating to activities under the mining lease. (2) The holder of the mining lease must provide the report within 7 days after becoming aware of the non-compliance. (3) The holder of the mining lease must ensure the report— (a) identifies the condition of the mining lease, or the requirement of the Act or this Regulation, to which the non-compliance relates, and (b) describes the non-compliance and specifies the date or dates on which, or the period during which, the non-compliance occurred, and (c) describes the causes or likely causes of the non-compliance, and (d) describes the action that has been taken, or will be taken, to mitigate the effects, and to prevent any recurrence, of the non-compliance.			7, 10, 11

In addition, the Quarry is located within land zoned as Zone IN1 General Industrial under the Industry and Employment SEPP.

The objectives of Zone IN1 General Industrial are as follows.

- *"To facilitate a wide range of employment-generating development including industrial, manufacturing, warehousing, storage and research uses and ancillary office space.*
- *To encourage employment opportunities along motorway corridors, including the M7 and M4.*
- *To minimise any adverse effect of industry on other land uses.*
- *To facilitate road network links to the M7 and M4 Motorways.*
- *To encourage a high standard of development that does not prejudice the sustainability of other enterprises or the environment.*
- *To provide for small-scale local services such as commercial, retail and community facilities (including child care facilities) that service or support the needs of employment-generating uses in the zone."*

The primary goal of Austral Bricks for the rehabilitation of the Horsley Park 23 Quarry is to create a safe, stable and non-polluting final landform which is suitable for future commercial or industrial development, consistent with the objectives of the Industry and Employment SEPP.

Consistent with this goal, separate development applications have been sought and received for the development of the Oakdale East Estate Stages 1 to 4 (see Section 1.2). The Oakdale East Estate approvals provide for the construction of industrial and commercial warehousing, masonry plant, and associated roads and carparking. All necessary consultation has been undertaken as part of those development applications. As these developments have been/will be completed progressively, separate to, and immediately following completion of extraction operations, further details of these developments are not reproduced within the RMP. Notably, lease relinquishment has been received/will be sought at cessation of extraction to enable the further development to be undertaken as a civil project rather than a mining activity (see Section 1.1).

It is noted that a further final land use options assessment is not required as the final landform and land use has been approved as part of the previously approved Mining Operations Plan.

2.3 FINAL LAND USE STATEMENT

The final land use within the Quarry Site prior to lease relinquishment will involve a stabilised landform suitable for subsequent development (in accordance with separate development consent) for industrial and commercial development.

Final land use and rehabilitation plans for the Quarry Site are presented in Section 5.

2.4 FINAL LAND USE AND MINING DOMAINS

2.4.1 Final Land Use Domains

Table 4 defines the final land use domains for the RMP Area and **Figure 7** displays the final land use domains for the RMP Area.

Table 4
Final Land Use Domains

Final Land Use Domain	Domain ID[1]	Domain Description
Other (Stabilising Groundcover)	Ka	This domain incorporates the entirety the RMP Area, which will be seeded with a pasture cover for stabilisation purposes (if required) prior to future commercial, industrial or other development.
Note 1: See **Figure 7**		

2.4.2 Mining Domains

Table 5 defines the mining domains for the RMP Area as presented in **Figure 8**.

Table 5
Mining Domains

Final Land Use Domain	Domain ID[1]	Domain Description
Infrastructure Area	1	This domain incorporates the unsealed access and haul roads within the western extent of M(MO)L7.
Active Mining Area (Open cut void)	5	This domain incorporates the current and planned extents of extraction within the Quarry. Stockpiling of may also occur within this domain.
Other (Rehabilitation Area)	8a	This domain includes previously disturbed areas which have been rehabilitated with a stabilising pasture cover and areas of native vegetation where regrowth has been allowed to occur.
Note 1: See **Figure 8**		

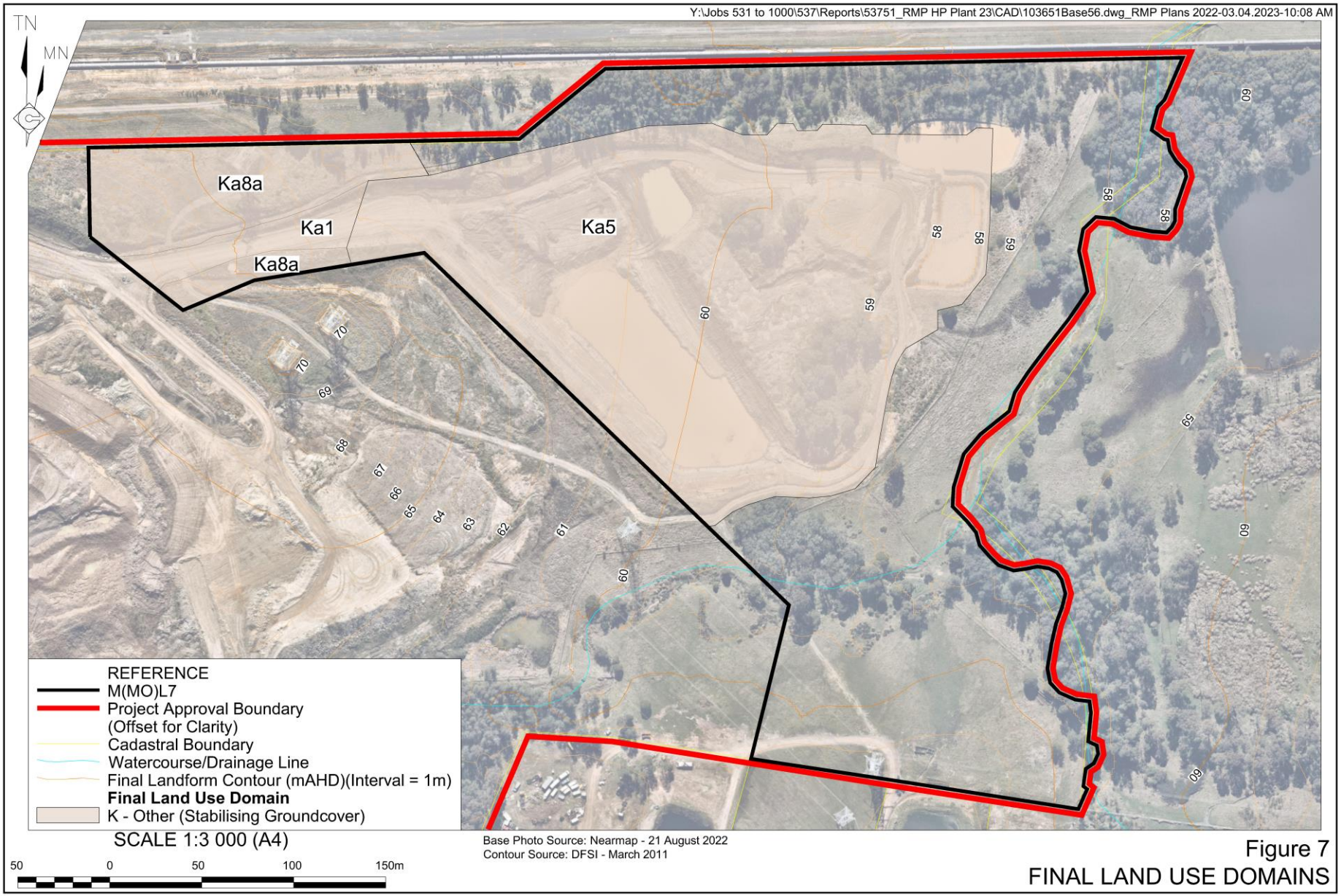


Figure 7
FINAL LAND USE DOMAINS

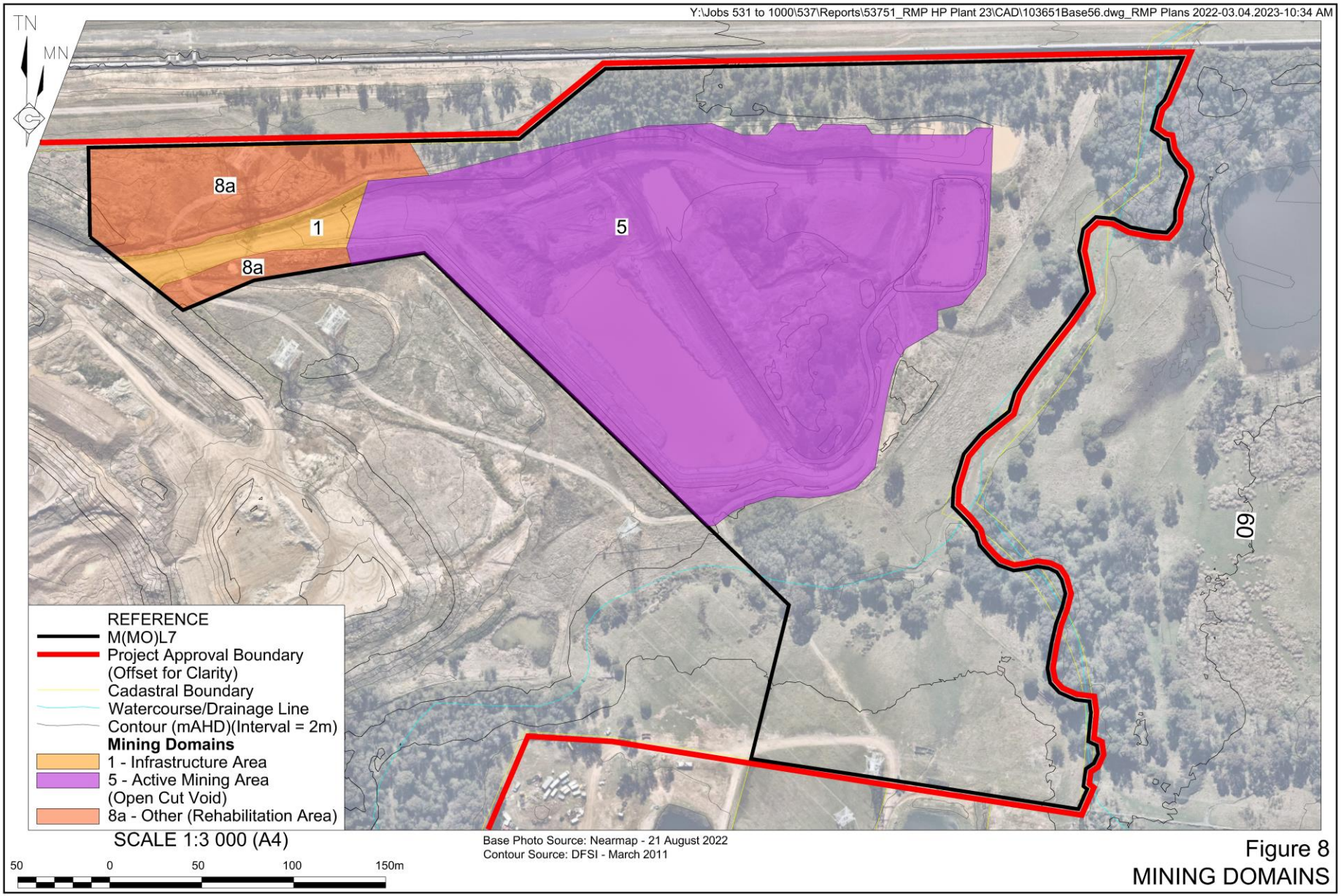


Figure 8
MINING DOMAINS

3. REHABILITATION RISK ASSESSMENT

The following risk assessment was undertaken generally in accordance with *Australian Standards HB 203:2006, AS/NZS 4360:2004* and *AS/NZS ISO 31000:2018 Risk Management – Principles & Guidelines*.

Risks to achieving the rehabilitation objectives and rehabilitation completion criteria outlined in Section 4, as well as the final landform outlined in Section 5, were identified and assessed jointly by Austral Bricks and R.W. Corkery & Co. Pty Limited during the preparation of this plan. Site-specific threats to rehabilitation were assessed based on both the results of previous rehabilitation efforts as well as observations of site-specific conditions and threats to rehabilitation observed during site inspections. This risk assessment was completed with consideration of existing controls as well as those risk controls outlined in this plan.

For each identified risk to rehabilitation, potential adverse outcomes were identified and allocated a risk rating based on the potential consequences and likelihood of occurrence. **Tables 6**, **7** and **8** present the consequence, likelihood and risk rating used during this analysis. Where risks were determined to be unacceptable, namely those risks classified as "Moderate" or above, a Trigger Action Response Plan has been developed and is presented in Section 10.

Table 9 presents the results of the risk analysis assuming the implementation of standard mitigation measures and those outlined within this RMP.

Table 6
Qualitative Consequence Rating

Level	Descriptor	Description
1	Negligible	No detrimental impact on the final land use is measurable or envisaged.
2	Minor	An event which could have temporary and minor effects on the suitability of the final land use.
3	Moderate	An event which would create substantial temporary or minor permanent damage to the suitability of the final land use.
4	Major	An event which could have a substantial and permanent consequence to the suitability of the final land use.
5	Severe	A major event which could cause severe damage to the suitability of the final land use with actual or potential loss of credibility with key stakeholders, environmental liability, regulatory intervention, national publicity/complaints, or could close the operation prematurely.
Note: Rating modified after AS ISO 31000:2018 Risk Management – Guidelines		

Table 7
Qualitative Likelihood Rating

Level	Descriptor	Description
A	Certain	Is an ongoing occurrence or will occur under all conditions.
B	Almost Certain	Is expected to occur in most circumstances.
C	Likely	Will probably occur in most circumstances.
D	Possible	Will probably occur under favourable circumstances.
E	Unlikely	May occur, but only under favourable circumstances.
F	Rare	Not expected to occur, unless subject to exceptional circumstances.
G	Very Rare	Theoretically possible but not expected to occur.
Source: Rating modified after HB 89:2012 – Figure B7		

Table 8
Qualitative Risk Rating

Likelihood	Consequences				
	1 Negligible	**2 Minor**	**3 Moderate**	**4 Major**	**5 Severe**
A Certain	M	H	H	VH	VH
B Almost Certain	M	M	H	VH	VH
C Likely	M	M	H	H	VH
D Possible	L	M	M	H	H
E Unlikely	L	L	M	M	H
F Rare	L	L	L	M	M
G Very Rare	L	L	L	L	M
Risk Rating: L = Low, M = Moderate, H = High and VH = Very High					
Source: Modified after HB 89:2012 – Figure B8					

Table 9
Plant 23 Quarry Rehabilitation Risk Assessment

Rehabilitation Phase	Risk	Risk Control	Final Land Use Domain / Risk Ranking Domain I: Infrastructure	Where Addressed in RMP
General	Insufficient skills and experience of rehabilitation personnel.	Extensive experience of management team. Development and implementation of *Integrated Management Plan* documentation, including inductions, toolbox talks and Contractor Permit to Work, safety contacts and workplace inspections. *Engagement of specialists consultants to address specific issues if and when required.*	L(F3)	7, 10
	Lack of clearly defined responsibilities.	Responsibilities as defined in the *Rehabilitation Management Plan* and Safety, Health and Environment Management System. Implementation of *Integrated Management Plan* documentation, including inductions, toolbox talks and Contractor Permit to Work.	L(G3)	7
	Insufficient funding for or prioritisation of rehabilitation activities.	Rehabilitation cost estimate and maintenance security bond.	L(F3)	8.3
Active Mining Phase of Rehabilitation	Inappropriate biological resource (e.g. subsoil, topsoil, vegetative material, seedbank, rocks, habitat resources) through clearing, salvage, and handling practices.	Minimal additional growth medium to be sourced through clearing / salvage. Stabilising groundcover to be established utilising weathered material (prior to subsequent development for commercial / industrial purposes). Spraying of weeds on an as needed basis. *If required, suitable imported backfill material to be stockpiled separately for use in 'topdressing' filled and shaped landform.*	L(E2)	6.2.1.1, 6.2.1.11
	Limited pre-existing biological resources for use (e.g. topsoil, woody debris).	Minimal additional growth medium to be sourced through clearing / salvage. Stabilising groundcover to be established utilising weathered material (prior to subsequent development for commercial / industrial purposes).	M(A1)	6.2.1.1, 6.2.1.11
	Adverse meteorological conditions during salvage of biological resources.	Review of meteorological forecast prior to vegetation clearing and soil stripping and avoidance of salvage activities during high rainfall. Review site conditions prior to commencement of vegetation clearing and soil stripping.	L(F3)	6.2.1.1
	Adverse geochemical/chemical composition of materials such as overburden, processing wastes, topsoils and subsoils.	Allowance for application of fertiliser in rehabilitation cost estimate. *Testing of growth medium following spreading but prior to application of seed to confirm appropriate species to sow for stabilisation.*	L(F3)	6.2.1.1, 6.2.1.11, 8.3
	Handling and containment of geochemical and geotechnically unsuitable process residue and reject materials.	No geochemically or geotechnically unsuitable process residues or reject materials generated or present.	N/A	-
	Adverse surface and/or groundwater quality and quantity.	Erosion and sediment control structures. Storage of all hydrocarbons and chemicals in accordance with AS1940:2017 – The storage and handling of flammable and combustible liquids. (Note: no permanent storages present on site)	N/A	-
Decommissioning Phase of Rehabilitation	Impacts on heritage items.	There are currently no known heritage items on site *Unexpected finds protocol in the event that a heritage item is discovered.*	L(G4)	6.2.1.13
	Hazards associated with retained infrastructure.	No existing or retained infrastructure.	N/A	-
	Contamination resulting from associated activities (e.g. storage and use of hydrocarbons/chemicals, drilling fluid, spillage of dirty water, brine, sewage).	Storage of all hydrocarbons and chemicals in accordance with AS1940:2017 – The storage and handling of flammable and combustible liquids. (Note: no permanent storages present on site) *Contamination inspection (and sampling if required) and report prior to relinquishment.*	M(D3)	6.2.2.4, 6.2.2.5
	Material and waste products from the demolition process retained on the final landform.	No demolition works applicable. Removal of all equipment and any associated spares / wastes in accordance with established protocols.	L(F2)	6.2.2.2
	Groundwater accumulation in former underground workings (e.g. potential for fill and spill or impacts on regional ground water users.	No underground workings present.	N/A	-
	Exposure or access to underground workings.	No underground workings present.	N/A	-
	Habitation of structures and/or underground workings by native fauna (e.g. bats).	No underground workings present.	N/A	-
Landform Establishment Phase of Rehabilitation	Unstable landform due to erosion and/or mass movement issues associated with inappropriate design and/or quality assurance during landform construction.	Progressive landform shaping. *Visual inspection and report of slope stability prior to relinquishment. .*	L(G3)	6.2.3.2
	Exposure or release of geochemical and/or geotechnically adverse material associated with containment design and construction, including capping/cover system.	No capping or containment systems present or required.	NA	-
	Lack of availability of suitable materials for encapsulation or capping of adverse materials.	No capping or containment systems present or required.	NA	-
	Borehole or gas well seals failure.	No boreholes or gas wells present.	N/A	-

Table 9 (Cont'd)
Plant 23 Quarry Rehabilitation Risk Assessment

Rehabilitation Phase	Risk	Risk Control	Final Land Use Domain / Risk Ranking Domain I: Infrastructure	Where Addressed in RMP
Landform Establishment Phase of Rehabilitation (Cont'd)	Final landform unsuitable for final land use (e.g. large rocks present affecting cultivation, unsuitable surface cover and landform settlement).	*Shaping and ripping of final batters to provide suitable grades and surface substrate for establishment of a stabilising groundcover.* *Visual inspection prior to sowing seed.*	L(F3)	6.2.3.2, 6.2.3.4
	Retained final landform is not free-draining / results unintended ponding of water.	*Shaping of batters and extraction floor to provide suitable grades without ponding of water.*	L(F3)	6.2.3.1
	Uncontrolled public access to highwalls	No highwalls will be retained with all slopes 1:3 V:H or less	NA	-
Growth Medium Development Phase of Rehabilitation	Inappropriate physical and structural properties of growth medium.	*Light ripping of final shaped landform across contours to key in to substrate, reduce surface runoff velocities, and retain seed (when spread).* *Restriction of vehicular access following ripping.*	M(D2)	6.2.4
	Subsoil and topsoil deficit for rehabilitation activities.	The ultimate final land use is proposed to be commercial / industrial development. An interim stabilising groundcover is to be established directly on a weathered material substrate rather than spreading soil material. *If required, suitable imported backfill material to be stockpiled separately for use in 'topdressing' filled and shaped landform.*	M(A1)	6.2.4
	Substrate inadequate to support revegetation or agricultural land capability (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).	*Testing of growth medium following spreading but prior to application of seed to confirm appropriate species to sow for stabilisation.* *If required, fertilised and ameliorants to be spread to ensure adequate groundcover achieved.*	M(D2)	6.2.4
Ecosystem and Land Use Establishment Phase of Rehabilitation	Lack of availability and quality of target seed resources, including genetic integrity.	*Source and purchase of appropriate agricultural / pasture seed mix for ground stabilisation in advance of planned rehabilitation activities.*	L(G3)	6.2.5, 9
	Poor seed viability or seed dormancy.	*Source and purchase of appropriate agricultural / pasture seed mix for ground stabilisation in advance of planned rehabilitation activities.*	L(F3)	6.2.5, 9
	Seed predation.	*Use of appropriate sowing and seeding techniques.* *Selection of seed mix appropriate to the season / current weather conditions so that germination occurs as soon as practicable following sowing.*	L(F3)	6.2.4, 6.2.5
	Damage to seed through revegetation process.	*Use of appropriate sowing and seeding techniques.*	L(E2)	6.2.4
	Poor quality tubestock.	Tube stock not proposed to be utilised in rehabilitation.	NA	-
	Weed infestation associated with both introduction and control (or lack thereof).	Implement weed inspection and control program. Implement equipment delivery protocol to ensure equipment does not import weeds.	L(E2)	6.2.6.1
	Adopting inappropriate or inadequate rehabilitation techniques, including equipment fleet.	Extensive experience of management team. *Engagement of experienced contractors.* *Rehabilitation personnel induction and training.*	L(F3)	7
	Inappropriate revegetation species mix for targeted final land use.	*Consult with suitably experienced expert to confirm suitable agricultural / pasture seed mix that will provide adequate groundcover on the final growth medium substrate.* *Source seed mix from reputable supplier.*	L(F3)	6.2.5, 8, 9
	Adverse weather and climatic influences (e.g. drought; intense rainfall events; bushfire and climate change).	*Review long-term weather forecast prior to purchase of seed mix.* *Consult with suitably experienced expert to confirm suitability of seed mix for seasonal conditions.* *If required and available, utilisation of stored water from adjacent Oakdale East industrial estate for irrigation of revegetation areas to achieve effective establishment.*	M(E3)	6.2.5
	Lack of infrastructure to support intended final land use (e.g. bunding, fences, watering facilities).	No specific infrastructure required to support final land use.	NA	-

Table 9 (Cont'd)
Plant 23 Quarry Rehabilitation Risk Assessment

Rehabilitation Phase	Risk	Risk Control	Final Land Use Domain / Risk Ranking Domain I: Infrastructure	Where Addressed in RMP
Ecosystem and Land Use Development Phase of Rehabilitation	Hazards associated with retained infrastructure.	No infrastructure to be retained that represents a hazard.	NA	-
	Adverse weather and climatic influences (e.g. drought; intense rainfall events; bushfire and climate change).	Review long-term weather forecast. *If existing seed mix is inappropriate for current weather conditions, consult with suitably experienced expert to confirm alternative species or mulch area for temporary stabilisation.*	L(F3)	6.2.6.3, 6.2.6.2
	Substrate inadequate to support revegetation or agricultural land capacity.	*If inadequate groundcover / projected foliage cover achieved in order to stabilise the site prior to subsequent commercial / industrial development, consult with suitably experienced expert to confirm appropriateness of species selection or need for additional amelioration requirements (e.g. gypsum, fertiliser).*	L(F3)	6.2.6.1, 6.2.6.3
	Post-closure water quality and quantity issues.	*Ensure adequate projected foliage cover to limit erosion / silt entrainment.* *Ensure erosion / sediment management measures remain stable and functional.*	L(F3)	6.2.6.2, 6.2.6.3
	Damage to rehabilitation (e.g. fauna, domestic stock, vandalism, vehicular interactions, bushfire).	Maintain existing property fencing. *Restrict vehicular entry to the rehabilitation areas. .* *Rehabilitation monitoring program.*	L(F3)	6.2.2.1, 6.2.6.2
	Re-disturbance of established rehabilitation areas.	*Appropriate rehabilitation planning / scheduling.* *Restrict vehicular entry to rehabilitation areas.*	L(F3)	6.2.2.1
	Insufficient establishment of target species and limited species diversity.	*Rehabilitation monitoring program.* *Supplementary sowing of additional species seed mix (if required to maintain adequate projected foliage cover).*	L(F3)	6.2.6.3, 8
	Erosion and failure of landform, drainage and water management/storage structures.	Visual inspection program. *If required, suitably qualified expert engaged to recommend erosion and sediment control measures.*	L(F3)	8
	Lack of infrastructure to support intended final land use (e.g. bunding, fences).	No infrastructure to be retained.	NA	-
	Lack of resources for rehabilitation maintenance.	Rehabilitation cost estimate and maintenance of security bond. Rehabilitation planning / scheduling	L (G3)	8.3
Other Risks (Non-Phase Specific)	Redirection of creek and river flows.	No watercourses present in extraction areas.	NA	-
	Subsidence cracking.	No underground mining undertaken.	NA	-
	Interconnective cracking with underground workings	No underground mining undertaken / no historic underground workings present.	NA	-

4. REHABILITATION OBJECTIVES AND REHABILITATION COMPLETION CRITERIA

4.1 REHABILITATION OBJECTIVES AND REHABILITATION COMPLETION CRITERIA

Table 10 presents the rehabilitation objectives and completion criteria for individual final land use domains within the RMP Area. Final land use domains are shown on **Figure 7** and current Mining Domains are shown on **Figure 8**.

4.2 REHABILITATION OBJECTIVES AND REHABILITATION COMPLETION CRITERIA – STAKEHOLDER CONSULTATION

Table 11 presents a summary of consultation undertaken with relevant stakeholders with regards to the rehabilitation objectives, rehabilitation completion criteria and proposed final land uses and landforms presented in this Plan. This tables will be updated with each revision to this Plan to include details of further consultation with relevant and interested stakeholders.

Table 10
Rehabilitation Objection and Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Reference	Rehabilitation Objective	Indicator	Rehabilitation Completion Criteria	Validation Method
K – Other (Stabilising Groundcover)	Infrastructure Area, Active Mining Area (Open cut void), Other – Rehabilitation Area	K1, K5, K8a	***Decommissioning Phase***			
			All mobile equipment and ancillary infrastructure not required for the final land use are removed.	Removal of the mobile plant.	Mobile plant is removed from site.	Relinquishment inspection and report, including photographs.
				Presence of ancillary infrastructure.	All ancillary infrastructure removed unless specified to be retained in this Plan.	
			Areas are free from contaminants and hazardous materials.	Contamination levels.	Contaminated land assessment indicates contamination acceptable for final land use.	Contamination Assessment Report prepared by a suitably qualified person, with follow up validation testing to be undertaken, if required.
				Presence of hazardous materials.	All hazardous materials removed.	
			Landform Establishment Phase			
			Free draining, stable and non-polluting landform established.	Access Controls.	Barriers are placed adjacent retained access road to prevent public access to potentially hazardous landforms or sensitive rehabilitation areas, if required.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning.
				Free draining landform.	Mapping confirms that the landform is free draining. No pooling of water is observed.	Final survey plans. Relinquishment inspection and report, including photographs.
				Stable landform.	Geotechnical assessment based on site specific review determines that the backfilled areas are not likely to actively erode or 'slump' to an extent requiring further earthworks and profiling.	Geotechnical review / report prepared by suitably qualified person.
			Growth Medium Development Phase			
			Final landform surface prepared so it is suitable for establishment of a stabilising groundcover.	Growth medium suitability.	Weathered material is present at the surface and the area has been ripped/scarified.	Visual inspections, including photographs presented within relinquishment report.
			Ecosystem Establishment Phase			
			Establishment of a suitable pasture cover or other stabilising groundcover.	A stabilising groundcover has been established.	Total projected foliage cover is greater than 50%.	Photographs and site inspection record.
			Ecosystem Development Phase			
			Rehabilitated areas do not constitute an erosion hazard.	Maintenance of a suitable pasture cover or other stabilising groundcover.	Total projected foliage cover is greater than 70% or equivalent or better than those recorded for relevant analogue sites (i.e., Reedy Creek Pastural Area).	Regular inspections, including photographs, until target values are achieved. Sign off report prepared by suitably experienced / qualified person included in relinquishment report.
			Vegetation communities do not impact on surrounding biodiversity values.	Presence of priority weed species (e.g. high threat, noxious, invasive, or weed of national significance) or excessive weed abundance.	Weed abundance is <20% of projected foliage cover or is equal to or less than that observed at analogue sites in adjacent pastoral areas.	
					Priority weeds have been controlled in accordance with the requirements of State or local weed control orders.	
			Rehabilitation Completion / Relinquishment Phase			
			Relinquish lease and return of rehabilitation security.	Demonstrated compliance with all performance indicators.	Demonstrated compliance with all completion criteria.	Relinquishment report prepared by suitably qualified or experienced person(s).

Table 11
Community Consultation Activities

Stakeholder	Consultation Activities
Resources Regulator	• Form of Consultation: Letter (email transmission) • Date: 8 July 2022 • Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. • Outcomes: – The Resources Regulator responded on 3 August 2022. – Response: The Resources Regulator will review, assess and determine the rehabilitation objectives statement and rehabilitation completion criteria once formally submitted for approval.
Mining, Exploration and Geoscience	• Form of Consultation: Letter (email transmission) • Date: 8 July 2022 • Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. • Outcomes: No response received by 2 August 2022.
Fairfield City Council (Council)	• Form of Consultation: Letter (email transmission) • Date: 8 July 2022 • Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. • Outcomes: – Council responded on 22 June 2022. – Response: Council has reviewed the documents and raises no objection to the proposed actions.
Environmental Protection Authority (EPA)	• Form of Consultation: Letter (email transmission) • Date: 8 July 2022 • Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. • Outcomes: – The EPA responded on 26 July 2022. – Response: The EPA has reviewed the documents and have no specific comments with regard to the proposed actions.
Deerubbin Local Aboriginal Land Council	• Form of Consultation: Letter (email transmission) • Date: 8 July 2022 • Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. • Outcomes: No response received by 2 August 2022.

5. FINAL LANDFORM AND REHABILITATION PLAN

5.1 FINAL LANDFORM AND REHABILITATION PLAN – ELECTRONIC COPY

Plan 1 presents the final landform features for the RMP Area and **Plan 2** presents the final landform contours for the RMP Area. Key features of landform development outside of the RMP Area are also shown on **Plans 1** and **2** where relevant to overall landform development.

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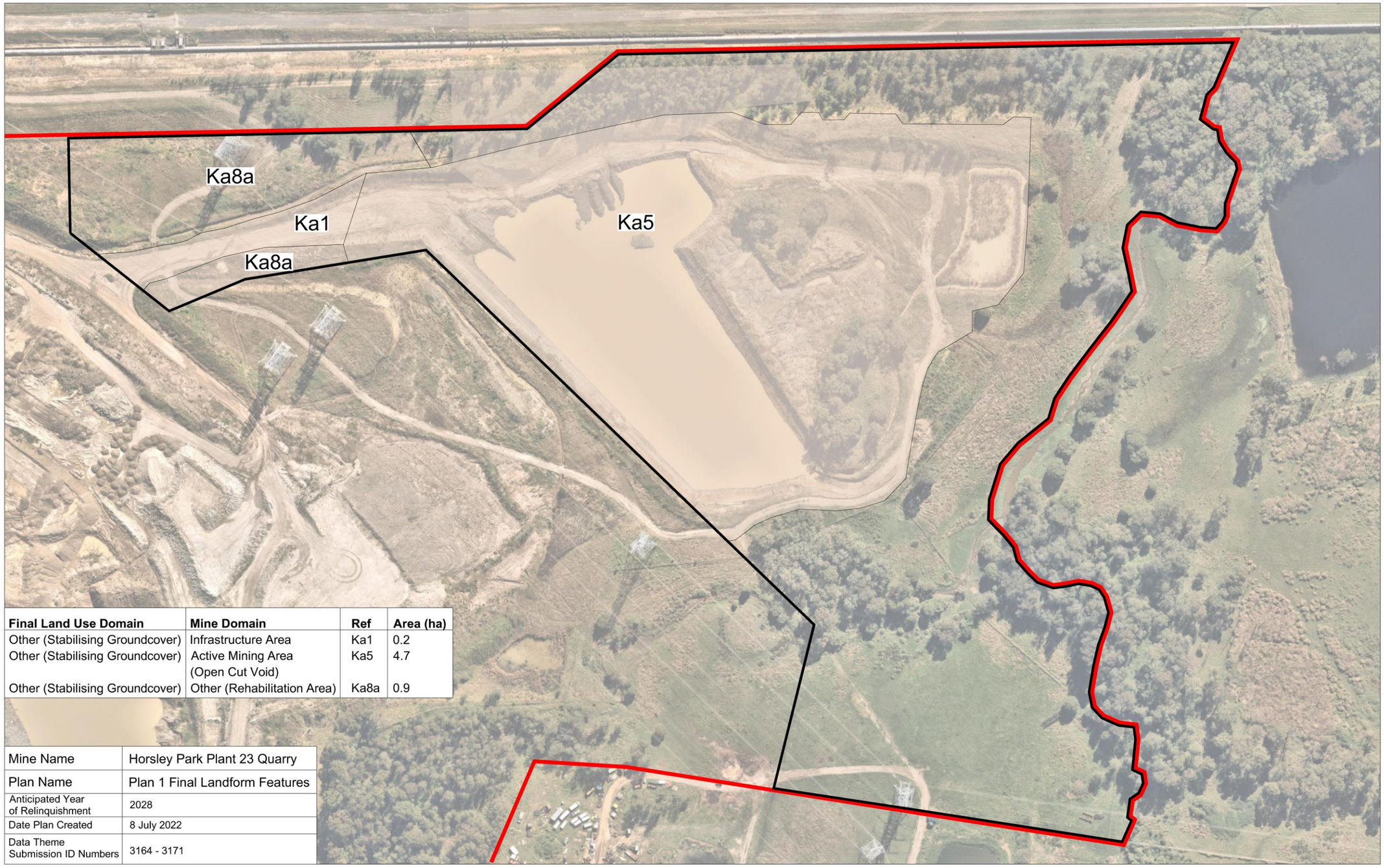


Final Land Use Domain	Mine Domain	Ref	Area (ha)
Other (Stabilising Groundcover)	Infrastructure Area	Ka1	0.2
Other (Stabilising Groundcover)	Active Mining Area (Open Cut Void)	Ka5	4.7
Other (Stabilising Groundcover)	Other (Rehabilitation Area)	Ka8a	0.9

Mine Name	Horsley Park Plant 23 Quarry
Plan Name	Plan 1 Final Landform Features
Anticipated Year of Relinquishment	2028
Date Plan Created	8 July 2022
Data Theme Submission ID Numbers	3164 - 3171

SCALE 1:2 000 (A3)

20 0 20 40 60 80 100 m

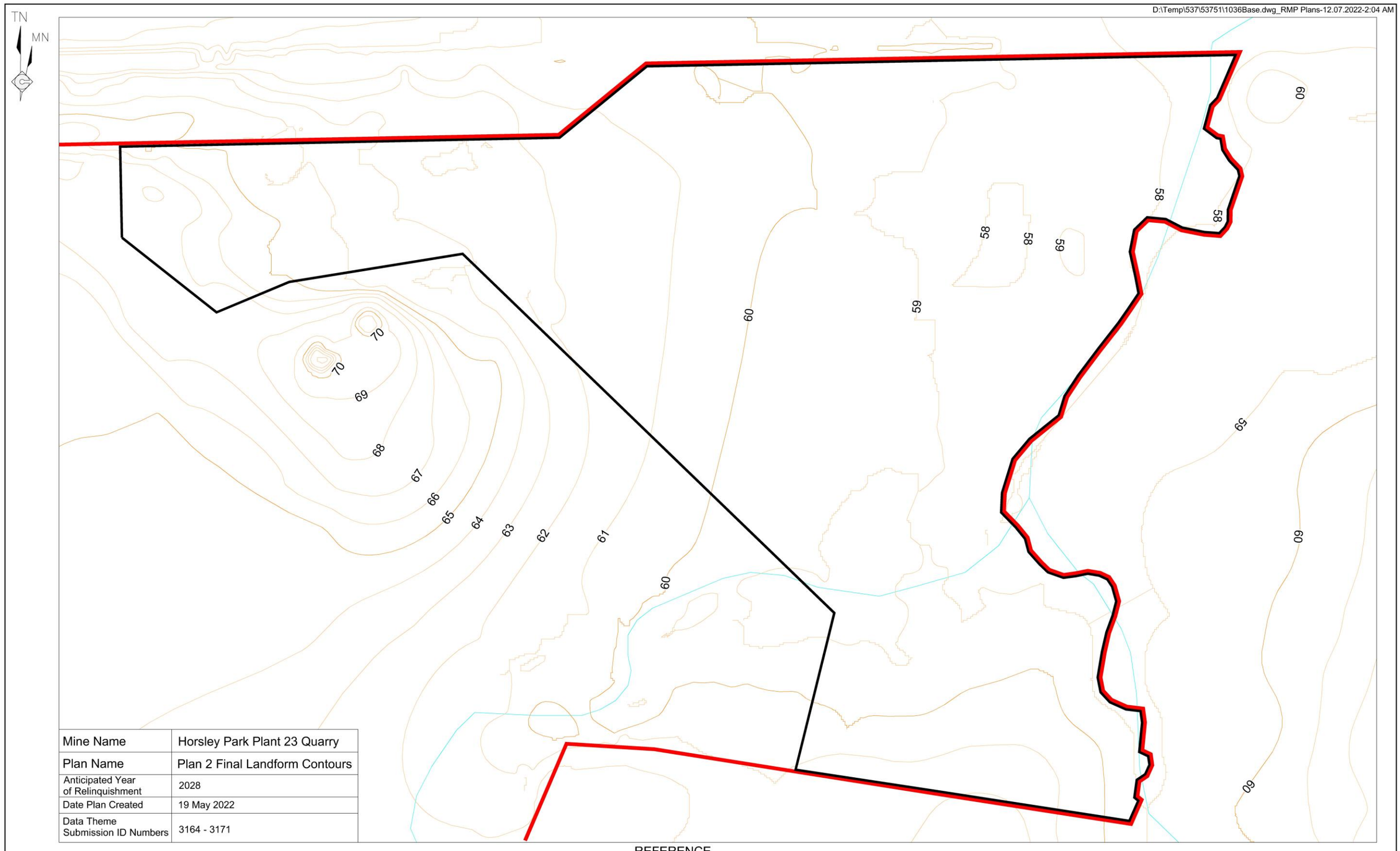
Base Photo Source: Nearmap - 16 April 2022

REFERENCE

M(MO)L7
Project Approval Boundary
(Offset for Clarity)

Final Land Use Domain
K - Other (Stabilising Groundcover)

Plan 1
FINAL LANDFORM FEATURES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Mine Name
Horsley Park Plant 23 Quarry
Plan Name
Plan 2 Final Landform Contours
Anticipated Year of Relinquishment
2028
Date Plan Created
19 May 2022
Data Theme Submission ID Numbers
3164 - 3171
SCALE 1:2 000 (A3)
20 0 20 40 60 80 100 m
Contour Source: DFSI - March 2011
REFERENCE
M(MO)L7
Project Approval Boundary (Offset for Clarity)
Final Landform Contour (mAHD)(Interval = 1m)
Plan 2
FINAL LANDFORM CONTOURS

6. REHABILITATION IMPLEMENTATION

6.1 LIFE OF MINE REHABILITATION SCHEDULE

Figure 8 depicts the current extent of disturbance within the RMP Area (i.e., the Mining Domains). **Plan 3** presents the indicative rehabilitation schedule for the RMP Area by depicting those areas which would be rehabilitated concurrently with ongoing extraction operations within the Quarry. Is it noted that this schedule is applicable only to land within the RMP Area and that the development of land outside of the RMP Area is not addressed in this document.

In summary, due to the relatively small operational area within RMP Area and lack of ancillary infrastructure, the proposed rehabilitation of the RMP Area will occur following cessation of extraction operations within M(MO)L7. Based on the current extraction rates, it is anticipated that extraction operations within the RMP Area will be complete by 2027, with rehabilitation operations completed by 2028 (i.e. **Plan 1**).

6.2 PHASES OF REHABILITATION AND GENERAL METHODOLOGIES

6.2.1 Active Mining Phase

6.2.1.1 Soils and Materials

Soils Required for Growth Medium

Due to the long history of disturbance throughout the area covered by the Quarry, negligible soil resources remain in-situ within the RMP Area. The majority of soil-stripping occurred prior to the granting of M(MO)L7, during which time surface disturbance activities occurred across the majority of Lot 103 DP1268366. Prior to the commencement of quarrying activities, the area was prepared through the clearing of pastural and native vegetation and the subsequent stripping and stockpiling of topsoils, subsoils and other material not suitable for brick making.

It is unlikely that growth medium development would occur in the final stages of the Quarry's operation as the land preparation activities for the subsequent development will be undertaken with final site rehabilitation. As the development of the Oakdale East Estate development area will essentially be a continuation of activities following the extraction activities, no growth medium development is required. Ongoing earthworks and subsequent construction activities will continue in accordance with separate approvals received for the development.

Notwithstanding, if required, placement of weathered backfill at the surface and/or ripping/scarifying the disturbed and backfilled surfaces will be undertaken to provide a medium suitable for the establishment of a stabilising groundcover in the event that subsequent development is to be delayed for a period of time.

The quantity and quality of growth medium available for rehabilitation operations is therefore recognised as an issue representing a low risk (see Section 4.1) to be managed during rehabilitation.

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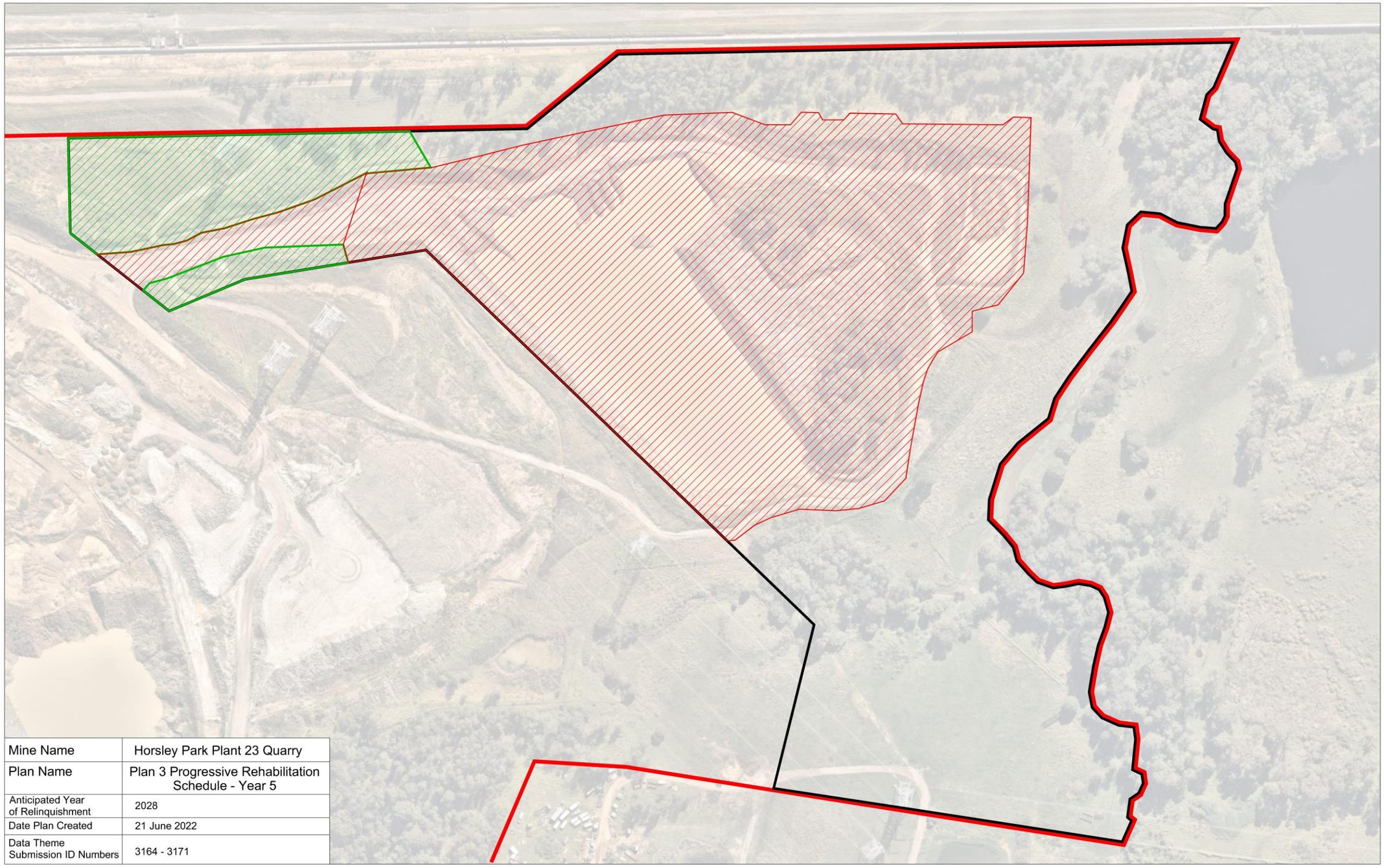

Mine Name	Horsley Park Plant 23 Quarry
Plan Name	Plan 3 Progressive Rehabilitation Schedule - Year 5
Anticipated Year of Relinquishment	2028
Date Plan Created	21 June 2022
Data Theme Submission ID Numbers	3164 - 3171

SCALE 1:2 000 (A3)

20 0 20 40 60 80 100 m

Base Photo Source: Nearmap - 16 April 2022

REFERENCE

M(MO)L7
Project Approval Boundary
(Offset for Clarity)

Rehabilitation Forecast
Forecast Disturbance
Ecosystem and Land Use Establishment

Plan 3
PROGRESSIVE REHABILITATION
SCHEDULE - YEAR 5

Material Required for Backfilling

Backfilling of historic extraction areas and for landform establishment will be achieved using on-site materials not suitable for brick making and with imported VENM. Prior to any VENM being transported to the Quarry, an approved VENM Validation Certificate and a signed Materials Agreement is required to be provided by the carrier to demonstrate compliance with the *Protection of the Environment Operations Act 1997*. All materials are inspected prior to or during placement. In the event any material is suspected of not being VENM, it is rejected and returned with the carrier.

6.2.1.2 Flora

With the exception of the riparian vegetation associated with Reedy Creek, the RMP Area is largely devoid of native vegetation reflecting past agricultural use and the extraction-related activities undertaken by Austral Bricks.

If required, the proposed final landform will be revegetated to stabilised pastoral cover prior to future industrial / commercial land use in the event that the subsequent development is to be delayed for a period of time.

The principal management measure for weeds will continue to be ongoing inspections and control through application of herbicide.

There is no significant constraint imposed by ecological issues that need to be reflected in the management of the Quarry. The principal management measures will therefore include retention of the riparian vegetation within the 40m corridor adjacent to Reedy Creek and management of runoff so as not to impact this vegetation.

6.2.1.3 Fauna

As identified in section 6.2.1.2, there is no significant constraint imposed by ecological issues that need to be reflected in the management of the Quarry and therefore, no specific fauna management measures are necessary.

6.2.1.4 Rock/overburden Emplacement

No further overburden material is expected to be encountered and therefore no overburden emplacement area is required. However, in the event that some of the extracted raw materials are not suitable for brick manufacture, these will be stockpiled within the Extraction Area for future backfilling of the Extraction Area void.

6.2.1.5 Waste Management

Negligible wastes will be generated within the Quarry given all amenities and workshop facilities are located within Plant 23 Brick Plant and not within the RMP Area. Wastes likely to be produced within the RMP Area include the following.

- Wastes such as greases, oils, filters, tyres and batteries from maintenance of mobile equipment will be managed by the earthmoving contractor outside the RMP Area;

- General wastes produced by employees – e.g. food scraps, drink and food packaging will be collected and placed within the appropriate recycling or general waste bins located at the Plant 23 Brick Plant.

6.2.1.6 Geology and Geochemistry

The Quarry is underlain by the Bringelly Shale, which is in turn forms part of the broader geology of the Sydney Basin. More specifically, the geology within the Quarry is characterised by a 'layer cake' sequence of clays and interbedded shales (claystones and siltstones) and sandstones.

Geological investigations undertaken throughout the Quarry since 1971 have established that there are four key types of raw materials present within Lot 103 DP1268366.

1. Clay – present on the land surface, varying in thicknesses of approximately 4m to 7m. The clay typically fires red.
2. Brown Shale – invariably present beneath the clay and comprises weathered claystones, siltstones and sandstones and typically fires red.
3. Old Blue Shale – fresh, unweathered claystone and siltstone (collectively referred to as "shale") that has a blue/grey natural appearance and typically fires terracotta.
4. Cream Shale – fresh, unweathered claystone and siltstone (collectively referred to as "shale") that has a grey/dark grey natural appearance and typically fires cream.

The geological and geochemical properties of the sandstone/shale resource within the RMP Area and broader Quarry Site is well understood. No environmental or geochemical constraints from the properties of the material are known to occur and therefore no risks to rehabilitation are expected to occur.

6.2.1.7 Material Prone to Spontaneous Combustion

No material on site is prone to spontaneous combustion. As a result, risks to rehabilitation associated with material prone to spontaneous combustion are not considered applicable and no specific risk controls have been identified.

6.2.1.8 Material Prone to Generating Acid Mine Drainage

No potentially acid forming material was identified in exploration undertaken on site. As a result, risks to rehabilitation associated with acid mine drainage are not considered applicable and no specific risk controls have been identified.

6.2.1.9 Ore Beneficiation Waste Management (Reject and Tailings Disposal)

No process residues or tailings will be generated from the Quarry. As a result, risks to rehabilitation associated with ore beneficiation waste management are not considered applicable and no specific risk controls have been identified.

6.2.1.10 Erosion and Sediment Control

The potential sources of surface water pollution, erosion and sediment within the RMP Area include runoff from the active operational areas, internal haul roads and temporary raw material stockpiles.

Surface water, erosion and sediment control measures are outlined in the Quarry Site's *Water Management Plan* (WMP), which aims to contain all sediment-laden water on site and to avoid any adverse environmental impacts. In summary, the following control measures will be implemented.

- Adequate drainage will ensure directional flow of water to the water management areas (i.e. Dam 3– see **Figure 2**).
- All potential contaminants will be stored and removed by licenced contractors.
- Surface water will be directed away from temporary raw material stockpiles wherever practical.
- Water will be re-used for on-site dust suppression.
- All persons undertaking activities within the RMP Area will undertake an induction and be aware of the relevant guidance within the WMP.
- In the event that discharge of water from the RMP Area is required, the discharge will be in compliance with EPL 546, the WMP, and via the licenced discharge point.

6.2.1.11 Ongoing Management of Biological Resources for Use in Rehabilitation

Appropriate sedimentation controls, including sediment fencing will be placed immediately down slope of any soil stockpiles and maintained until such time as a stable vegetation cover over the stockpile is achieved. Any soil stockpile likely to be retained for more than 3 months and that has not naturally established vegetation cover will be stabilised using a non-persistent cover crop.

In the event that unacceptable weed generation is observed on the soil stockpiles, a weed eradication program will be implemented. There will be no vehicle access on the soil stockpiles.

6.2.1.12 Mine Subsidence

No underground mining has or will occur within the RMP Area. As a result, risks to rehabilitation associated with mine subsidence are not considered applicable and no specific risk controls have been identified.

6.2.1.13 Management of Potential Cultural and Heritage Issues

Aboriginal Heritage

A search of the Aboriginal Heritage Information Management System (AHIMS) register on 10 July 2017 established that there are no recorded Aboriginal heritage sites within the boundary of M(MO)L7. It is noted that most of the area covered by M(MO)L7 has been disturbed to varying

degrees, initially by agricultural activities up to about 1970 and thereafter by a range of activities (principally extraction) undertaken by Austral Bricks. The closest recorded Aboriginal heritage site is located approximately 40m east Reedy Creek, beyond the north-eastern boundary of M(MO)L7.

As rehabilitation operations would be restricted to existing areas of disturbance within the RMP Area and no items of Aboriginal cultural heritage significance have been identified in this area, risks to rehabilitation associated with Aboriginal heritage are considered to be low and no specific risk controls have been identified beyond standard unexpected finds protocol.

Historic Heritage

No historic heritage is present within the RMP Area or broader Quarry Site. As a result, risks to rehabilitation associated with historic heritage are considered to be not applicable and no specific risk controls have been identified.

6.2.1.14 Exploration Activities

No significant exploration activities are planned for the RMP Area during the remaining life of the Quarry. Minor drilling operations may occur for quality control purposes to more accurately define local variations within the clay/shale resource. Any exploration-related disturbance outside of the current limit of disturbance will be rehabilitated in accordance with the *Exploration Code of Practice – Rehabilitation* published by the NSW Resources Regulator.

As a result, risks to rehabilitation associated with exploration activities are considered to be low and no specific risk controls have been identified.

6.2.2 Decommissioning

6.2.2.1 Security

Existing site security measures will be maintained during decommissioning and active rehabilitation operations within the RMP Area unless they are required to be modified for rehabilitation purposes. No public access to the operational area of the RMP Area is currently permitted. Access to the RMP Area is restricted by security fencing. Warning signs are also in place around the boundary of the Quarry Site. Internal safety and security infrastructure is provided by bunding of roads and accessways near sensitive areas such as operational voids and water management infrastructure.

Existing security fencing that is to be retained will be structurally assessed and repaired or replaced where necessary. Temporary security bunds, fencing and/or signage will also be used where practicable during decommissioning, with the extent and location of security infrastructure reviewed on a regular basis.

During decommissioning, additional security infrastructure may be installed as required.

6.2.2.2 Infrastructure to be Removed or Demolished

Table 12 presents a list of the site features to be decommissioned to achieve the final land use. As most of the significant infrastructure associated with the Quarry is located outside of the RMP Area (i.e., Plant 23), there is no specific formal requirement for the decommissioning of built infrastructure.

Table 12
RMP Area Assets

Mining Domain[1]	Assets	Decommissioning Requirements
1 – Infrastructure Area	Roads: includes all temporary and unsealed haul roads and access tracks.	Roads and other accessways would be progressively decommissioned as required.
5 – Active Mining Area (Open cut void)	Extraction Area: contains mobile earthmoving equipment and temporary stockpiles.	Stockpiled resource removed as required. Remaining material, including overburden, used as backfill as part of landform establishment.
8a – Other (Rehabilitation Area)	Includes adjacent to unsealed roads subject to varying levels of disturbance from quarrying and agricultural operations.	No specific decommissioning requirements as the area will be left undisturbed.
Note 1: Domains shown on **Figure 9**.		

Decommissioning operations are anticipated to be consistent with existing extraction and stockpiling operations within the RMP Area with respect to potential for impacts to surface water and air quality. In recognition of the above, the existing and approved surface water and air quality management and mitigation measures will continue to be in place during decommissioning, where practicable. As a minimum, the following controls will be implemented during decommissioning works within the RMP Area.

- Operational areas and exposed/disturbed surfaces will be damped down with water to suppress dust during decommissioning, with potentially contaminated water captured as appropriate.
- Works will be undertaken so as to minimise the generation of particulate matter.
- Works will not be undertaken during periods of high wind.
- Loads of surplus material to be removed from the RMP Area will be covered prior to transportation.

All material and waste products generated from any decommissioning and/or removal operations will be collected and either removed immediately from the RMP Area or stored in appropriate (i.e., disturbed) areas for removal by a licenced waste contractor as soon as practicable.

6.2.2.3 Buildings, Structures and Fixed Plant to be Retained

No Quarry-related infrastructure would be retained, with the exception of security and agricultural fencing within the RMP Area but outside of the principal disturbance area.

Short term risks associated with the retention of nominated infrastructure are relatively low as these features have primarily been retained for safety purposes.

6.2.2.4 Management of Carbonaceous / Contaminated Material

No contaminated or polluted land has been identified within the Quarry Site, however, as identified in **Table 10**, a single occurrence contamination assessment report will be prepared by a suitably qualified expert prior to the commencement of decommissioning activities.

In the event that contaminated materials are identified and it is not possible or practicable to remediate these materials either on or off site, contaminated materials will either be removed from the Quarry Site and disposed of at an appropriately licenced waste facility or disposed of at the Quarry Site, where appropriate and in accordance with an approved remedial action plan.

6.2.2.5 Hazardous Materials Management

No hazardous materials are proposed to be retained following the cessation of mining and rehabilitation operations. As identified in **Table 10**, a hazardous materials audit of the Quarry Site will be conducted concurrently during preparation of the single occurrence contamination assessment repot by a suitably qualified expert prior to the commencement of decommissioning activities to identify all potentially hazardous materials and any associated risks.

6.2.2.6 Underground Infrastructure

No underground infrastructure exists at the Quarry Site, therefore, no specific management or decommissioning measures are required.

6.2.3 Landform Establishment

6.2.3.1 Water Management Infrastructure

Prior to the future development of the RMP Area, the existing Dam 3 and Quarry Sump would be retained to manage any sediment laden runoff. The ultimate final landform would be shaped and graded to avoid ponding of water.

6.2.3.2 Final Landform Construction: General Requirements

As discussed in Section 6.2.1.2, in the event that the subsequent works for commercial / industrial development is delayed for a period of time following completion of extraction and final landform creation, the area of disturbance would be stabilised with a suitable stabilising cover.

Following the completion of rehabilitation operations, it is not expected that any areas will present any specific geotechnical or geochemical risks. Additionally, it is not expected that these areas will require specific erosion and sediment control measures following the establishment of stabilising cover. Notwithstanding, a geotechnical assessment of the final landform will be completed prior to relinquishment or as part of the subsequent civil works for the Oakdale East development.

6.2.3.3 Final Landform Construction: Reject Emplacement Areas and Tailings Dams

There are no designated reject emplacement areas or tailings dams within the RMP Area, therefore, no specific management or establishment measures are required.

6.2.3.4 Final Landform Construction: Final Voids, Highwalls and Low Walls

As discussed in Section 6.2.1.1, backfilling of extraction areas and for landform establishment will be achieved using on-site materials not suitable for brick making and imported VENM. In the event that lease relinquishment is sought prior to finalisation of backfilling (with works to be completed under separate development consent issued for the Oakdale East Estate), any retained final batters will be maintained at a slope of up to 1:1 (V:H) for faces formed in clay and brown shale and up to 1:0.6 (V:H) for faces within unweathered blue shale.

6.2.3.5 Construction of Creek / River Diversion Works

No creek or river diversion works will be required during the rehabilitation of the RMP Area.

6.2.4 Growth Medium Development

As discussed in Section 6.2.1.1, it is unlikely that growth medium development would occur in the final stages of the Quarry's operation as the land preparation activities for the subsequent development will be undertaken with the final site rehabilitation. As the development of the Oakdale East Estate will essentially be a continuation of activities following the extraction activities, no growth medium development is required.

Notwithstanding, if required, placement of weathered backfill at the surface and/or ripping/scarifying the disturbed and backfilled surfaces will be undertaken to break compaction and provide a medium suitable for the establishment of a stabilising groundcover in the event that subsequent development is to be delayed for a period of time.

If required, water carts will be employed to lightly wet growth medium material prior to spreading in order to minimise dust generation. Growth medium spreading will not be undertaken during excessively wet or windy conditions.

Following any spreading of growth medium, further vehicle access to these areas will be restricted to avoid compaction and entrainment of water.

6.2.5 Ecosystem and Land Use Establishment

The ecosystem and land use establishment phase involves the establishment and maintenance of vegetation on the completed landform or development of the subsurface for infrastructure. As the development of the Oakdale East Estate will essentially be a continuation of activities following the extraction activities, no ecosystem and land use establishment is required.

Notwithstanding, if required, in areas for which growth medium has been applied and there is an elevated risk of erosion, direct seeding or hydromulch of a cover species will be undertaken to facilitate stabilisation and vegetation establishment. Areas which are not considered vulnerable to erosion may be sown using broadcast seeding methods. Prior to application of seed, testing of the growth medium will be undertaken to determine the most appropriate species and the need for fertiliser or other ameliorants. Review of current and forecast weather conditions will also be undertaken to determine the appropriate species and application methods. A suitably experienced contractor would be utilised to undertake the testing and supply the appropriate seed mix.

Pending weather conditions and subject to availability, water stored within the existing Oakdale East areas may be utilised to irrigate seeded areas to assist in achieving successful establishment.

6.2.6 Ecosystem and Land Use Development

6.2.6.1 Weed and Pest Management and Monitoring

Several parameters associated with the presence of weeds and grazer impacts will be recorded as part of rehabilitation monitoring activities. The Annual Rehabilitation Report will include the following.

- An overview of any weed and pest management measures implemented within the RMP Area during the reporting period.
- A list of weed species identified during rehabilitation monitoring and any other inspections completed within the RMP Area.
- Details of any pests or evidence of grazer damage to revegetated areas identified during inspections, including a plan showing distribution within the RMP Area, where appropriate.
- Recommendations for specific weed and pest management measures to be implemented during the subsequent 12-month period.

6.2.6.2 Environmental Management and Monitoring Program

Surface Water

As no water management structures will be retained, no monitoring of surface water will be required within the RMP Area.

Groundwater

No monitoring of groundwater quality is currently undertaken or required within the RMP Area.

6.2.6.3 Revegetation

Vegetation establishment activities within the RMP Area, including growth medium spreading and seeding operations, will occur only where favourable climatic conditions are expected to occur. Consequently, prolonged drought periods may result in extended delays to these rehabilitation conditions. In the event that extended drought periods occur within the RMP Area,

rehabilitation schedules will be updated to prioritise other rehabilitation activities and opportunities to prepare additional areas for revegetation once favourable conditions return will be investigated.

Seed to be used for revegetation activities will be sourced from around the Quarry Site or obtained from a local, reputable nursery or seed wholesaler and until required will be stored off-site in a cool, dry place (preferably the source nursery or wholesaler).

In the event that monitoring identifies that ecosystem and land use development is not progressing towards the nominated completion criteria, the advice of a suitably qualified rehabilitation expert or agronomist would be sought and recommended actions would be implemented as required. This may include revegetation of sections of the rehabilitated area when the initial ecosystem establishment operations have not been successful.

The results of rehabilitation monitoring, as well as records of rehabilitation activities will be included in the Annual Rehabilitation Report.

6.2.6.4 Land Management and Infrastructure Maintenance

Site infrastructure including security and stock-proof fencing, safety bunds and signage will be structurally assessed on an annual basis and repaired or replaced where necessary.

The results of infrastructure inspections as well as records of annual infrastructure maintenance activities and costs will be included as part of an Annual Rehabilitation Report.

6.3 REHABILITATION OF AREAS AFFECTED BY SUBSIDENCE

As extraction will continue to be undertaken by open cut methods until the end of Quarry life, and no previous underground mining has occurred within the immediate area, no specific management measures are necessary.

7. REHABILITATION QUALITY ASSURANCE PROCESS

The following section details the rehabilitation quality assurance process for the RMP Area in accordance with *Guideline 3: Rehabilitation Controls (July 2021).* The rehabilitation quality assurance checklist included in this section is intended to be used as an indicative guide for rehabilitation operation managers and practitioners responsible for the rehabilitation of the RMP Area.

As the Quarry is currently operational, many of the pre-disturbance risk controls outlined in *Guideline 3* (e.g. baseline assessments and monitoring) have either been completed or form part of ongoing investigations to be undertaken during rehabilitation planning. As such, **Appendix 1** presents a condensed risk control checklist containing items applicable to the remaining active mining and planned rehabilitation phases of the Quarry.

It is anticipated that rehabilitation operations within the RMP Area will occur at the end of extractive activities with the majority of rehabilitation activities unable to commence prior to completion of extraction.

As part of the rehabilitation quality assurance process, relevant records and documentation will be recorded in a Rehabilitation Quality Assurance Register and reported as part of the Annual Rehabilitation Report. The Rehabilitation Quality Assurance Register will, as a minimum, include a copy of the checklists presented in **Appendix 1**. The Rehabilitation Quality Assurance Register will be maintained, reviewed and refined by the Raw Materials and Mining Manager (or delegate) to ensure that it is reflective of current rehabilitation progress, risk controls implemented at the Quarry Site and the outcomes of any updated rehabilitation risk assessments.

Table 13 outlines key responsibilities for Austral Bricks and Quarry personnel with regards to rehabilitation operations.

Table 13
Key Roles and Responsibilities

Role	Responsibility
Raw Materials and Mining Manger / Statutory Quarry Manager	Comply with applicable laws, regulations, licences and approvals. Ensure all contractors, sub-contractors and service personnel are appropriately qualified and/or licenced to undertake the required work. Ensure that appropriate resources are available to site management and personnel to enable the implementation of this Plan.
Environment Manager	Ensure that the Rehabilitation Quality Assurance register is maintained and up to date based on site activities. Ensure that the workforce is aware of relevant development and rehabilitation risks and management and mitigation measures, including any additional corrective and/or preventative measures. Ensure that the rehabilitation quality assurance process outlined in Section 7 is implemented as required. Ensure that the documentation and recording of rehabilitation risk controls occurs within a suitable timeframe. Ensure that specialist contractors adhere to the guidelines and methodologies outlined in this RMP where required, or that the guidelines and methodologies in this Plan are updated to reflect those employed at the Quarry Site.
All Quarry Personnel	Follow direction provided by the Raw Materials and Mining Manger and/or Environment Manager. Notify the Raw Materials and Mining Manger and Environment Manager in the event that uncontrolled rehabilitation risks are identified at the Quarry.

8. REHABILITATION MONITORING PROGRAM

8.1 ANALOGUE SITE BASELINE MONITORING

Based on Austral Bricks' previous and ongoing experience with rehabilitation, the condition of pastural vegetation adjacent to the RMP Area and the characteristics of the proposed final landform, the establishment of stabilised groundcover is considered by Austral Bricks to be unlikely to present a level of risk that would warrant a specific program of monitoring of analogue sites. However, if required, comparison of groundcover within rehabilitation areas will be made with pastoral areas adjacent the RMP Area.

8.2 REHABILITATION ESTABLISHMENT MONITORING

Rehabilitation monitoring will focus upon determining whether progress towards achieving the relevant performance indicators and completion and relinquishment criteria presented in Section 4 and **Table 10** is being achieved. This will consist of regular visual inspections until such time that total projected foliage within rehabilitated areas is greater than 70% or higher than those recorded in relevant analogue sites, namely areas of pastural vegetation located adjacent to the RMP Area.

8.3 MEASURING PERFORMANCE AGAINST REHABILITATION OBJECTIVES AND REHABILITATION COMPLETION CRITERIA

Details of validation methods and indicators to be employed during monitoring in order to assess performance against the rehabilitation completion criteria for the Quarry Site are provided in Section 4.1 and **Table 10**.

The Rehabilitation Quality Assurance Register will be used to record details of any additional management measures or risk controls implemented during the ecosystem development phase in response to the analysis of rehabilitation monitoring results.

An Annual Rehabilitation Report and Forward Program will be prepared for the Quarry as required under *Condition 13* of M(MO)L7 as specified by the *Mining Amendment (Standard Conditions of Mining Leases – Rehabilitation) Regulation 2021*. As part of the Annual Rehabilitation Report and Forward Program, Austral Bricks will also validate and certify that the security deposit covers the estimated cost of rehabilitation liabilities each year.

9. REHABILITATION RESEARCH AND TRIALS

9.1 CURRENT REHABILITATION RESEARCH AND TRIALS

No rehabilitation trials are currently taken within the RMP Area as the rehabilitation techniques are based principally upon engineering and water management principles which are well understood. The relevant techniques have previously been used at other extraction sites on land owned by Austral Bricks that was used for clay/shale extraction.

9.2 FUTURE REHABILITATION RESEARCH AND TRIALS

Given that the proposed final landform will be revegetated to stabilised pastoral cover (if required) prior to future industrial / commercial land use, future rehabilitation research and trials will not be required.

10. INTERVENTION AND ADAPTIVE MANAGEMENT

Table 14 presents the Trigger Action Response Plan for each of the rehabilitation threats and potential adverse outcomes identified in the *Rehabilitation Risk Assessment* (see Section 3) as having a risk rating of moderate or above.

Table 14
Trigger Action Response Plan

Rehabilitation Risk	Potential Adverse Outcome	Trigger	Action / Response
Active Mining Phase of Rehabilitation			
Limited pre-existing biological resources for use (e.g. topsoil, woody debris).	Insufficient resources available for rehabilitation limiting suitability of final land use.	Rehabilitation resource estimates indicate that sufficient soil and other biological resources are not available within the Mine Site	Suitable alternative source of additional soil material/ growth medium to be identified.
			Investigation into measures that may be implemented to ameliorate other materials to make them suitable for use as a growth medium.
Decommissioning Phase of Rehabilitation			
Contamination resulting from associated activities (e.g. storage and use of hydrocarbons/chemicals, drilling fluid, spillage of dirty water, brine, sewage).	Landform unsuitable for intended land use.	*Contamination Inspection Report* identifies potentially hazardous or contaminated materials.	Removal and disposal in accordance with the *Contamination Inspection Report.*
	Landform is a source of pollution.		
Growth Medium Development Phase of Rehabilitation			
Inappropriate physical and structural properties of growth medium.	Soil not capable of sustaining vegetation community.	Soil parameters not consistent with baseline studies.	Prepare a report incorporating soil analysis results and identifying a range of recommendations to be implemented to ensure that the soil is suitable for sustaining the vegetation community.
Subsoil and topsoil deficit for rehabilitation activities.	Insufficient soil available for construction of sustainable final landform and land use.	Sufficient soil resources are not available within a reasonable distance of the Mine Site.	Suitable source of additional soil material / growth medium to be identified. Commence investigation into measures that may be implemented to ameliorate other materials to make them suitable for use as a growth medium.

Table 14 (Cont'd)
Trigger Action Response Plan

Rehabilitation Risk	Potential Adverse Outcome	Trigger	Action / Response
Substrate inadequate to support revegetation or agricultural land capability (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).	Inadequate soil thickness applied to final landform.	Test pitting following placement of soil material identifies placed soil thickness not consistent with final approved soil thickness.	Additional soil material spread on the final landform.
	Soil not capable of sustaining vegetation community.	Soil parameters not consistent with baseline studies.	Prepare a report incorporating soil analysis results and identifying a range of recommendations to be implemented to ensure that the soil is suitable for sustaining the vegetation community.
Ecosystem and Land Use Establishment Phase of Rehabilitation			
Adverse weather and climatic influences (e.g. drought; intense rainfall events; bushfire and climate change).	Delay to or failure of vegetation establishment.	Visual monitoring during and/or after adverse weather/climatic events identifies limited opportunities for progressive rehabilitation or negative effects on vegetation establishment	Review of rehabilitation schedule and update to forward schedule.
			Rehabilitation areas are assessed for damage and necessary repairs and/or revegetation efforts are employed as required.

11. REVIEW AND IMPLEMENTATION

Table 15 presents the triggers for reviewing this Plan.

Table 15
Rehabilitation Management Plan Review Triggers

Trigger	Review
Request from the Resources Regulator or other relevant government agency to review the Plan.	As required by any notice
Modification of an existing development consent.	Within 3 months
Modification of an existing Mining Lease.	Within 3 months
Preparation of a revised Rehabilitation Risk Assessment.	Within 1 month
Submission of each Annual Rehabilitation Report and Forward Program.	Within 1 month
Consultation with relevant stakeholders with significant implications for the final land use and/or final landform.	Within 3 months
Consultation with relevant stakeholders with significant implications for rehabilitation objectives and/or rehabilitation completion criteria.	Within 3 months

In addition to reviews of this Plan as outlined in **Table 15**, a Rehabilitation Quality Assurance Register will be developed and regularly maintained to ensure that mining and rehabilitation activities at the Quarry Site are being conducted in accordance with this Plan. The Rehabilitation Quality Assurance Register will include the checklist presented as **Appendix 1** as well as a compliance register used to assess the status of compliance with requirements under relevant development consents, leases and licences. Additionally, the Rehabilitation Quality Assurance Register will include:

- records of any contaminated water or hazardous materials collected at the Quarry Site and disposed of off site;
- the latest map of weed distribution at the Quarry Site;
- the latest map of contamination at the Quarry Site; and
- details of any additional rehabilitation measures and/or risk controls implemented within individual subdomains during rehabilitation operations.

12. REFERENCES

JBS&G Pty Ltd (2019) *Remedial Action Plan, Austral Plant 23 Quarry Old Wallgrove Road, Horsley Park.* Dated 31 October 2019. Prepared for The Austral Brick Company Pty Ltd.

Appendix 1

Rehabilitation Risk Control Checklist

(Total No. of pages including blank pages = 10)

Table A
Rehabilitation Risk Control Checklist

Rehabilitation Phase / Activity	Comment / Completion Date(s)
Phase: Active Mining (Production)	
Soil and Materials Management	
Develop and maintain a materials and soils balance and database to include the following information: • volume of material, topsoil and subsoil stockpiled. • location, age and quality of stockpiles. • chronology of treatments (e.g. weed control, application of cover crop) undertaken on the stockpile. • volume of material, topsoil and subsoil required for application to current disturbance areas. • an estimate of the volume of suitable alternative material required to be imported onto site to supplement potential material, topsoil and subsoil deficits. • record data on the location of the stockpiled material including date stripped, source area, indicative volume, pre-strip plant community type. Information is to be stored using site-based GIS.	
Locate soil stockpiles away from traffic areas and at an appropriate distance from watercourses.	
Locate soil stockpiles on level or gently sloping areas to minimise the potential for erosion and soil loss.	
Limit soil stockpiles to less than two to three metres high and set out in windrows to maximise surface exposure and biological activity.	
Install appropriate erosion, dust and sediment controls around soil stockpiles to reduce the potential for soil loss.	
Appropriately sign-post soil stockpiles to identify the area and minimise the potential for unauthorised use or disturbance.	
Monitor and control weed growth on soil stockpiles.	
Materials Handling	
Develop and implement an operational and rehabilitation program to ensure geochemical and geotechnical long-term stability.	
Develop and maintain a register of any contaminated sites, waste landfill sites and bioremediation areas and where they are located.	

Table A (Cont'd)
Rehabilitation Risk Control Checklist

Rehabilitation Phase / Activity	Comment / Completion Date(s)
Phase: Active Mining (Production) (Cont'd)	
Environmental Monitoring	
Develop, maintain and document an environmental monitoring program for vegetation establishment.	
Site Services	
Electricity services to any infrastructure scheduled for demolition will be removed before the start of building demolition works.	
Telecommunications, water supply and other services will also be disconnected and removed where practical.	
Where services are buried (e.g. pipelines, cables) and their retrieval may lead to further disturbance, the infrastructure may be left in situ (subject to any necessary approvals or agreements) if they don't pose constraints to the final land use. In this situation, the location of the services will be surveyed and marked on the site plan and a suitable caveat developed to provide that they are readily identifiable for future land holders.	
Management of Contaminated Material	
Any contaminated material should be managed in accordance with relevant guidelines under the *Contaminated Land Management Act 1997*. Records will need to be retained to validate that contamination has been remediated or managed effectively to meet the final land use rehabilitation objectives and rehabilitation completion criteria.	
Hazardous Materials Management	
All remaining hydrocarbons such as diesel and lubricants and other hazardous materials will be either used or discarded by an authorised waste contractor.	
Removal of any oily water treatment system, following the demolition of the workshop and associated facilities.	
Storage tanks of hazardous materials will be removed and, depending on their condition, either sold or disposed at an authorised facility.	
Specific consideration should be given to managing asbestos materials, radiation devices, hydrocarbon as well as other contaminated substances/materials/soils in accordance with relevant guidelines that can be found on the Environment Protection Authority's website.	

Table A (Cont'd)
Rehabilitation Risk Control Checklist

Rehabilitation Phase / Activity	Comment / Completion Date(s)
Phase: Active Mining (Production) (Cont'd)	
At the Completion of Exploration Activity	
Remove and lawfully dispose of all grid pegs, tags, sample bags, flagging tape, drill chips and other waste.	
Remove all drill core.	
Survey, seal and rehabilitate all boreholes.	
Remove and lawfully dispose of all plant and equipment (including surface pipelines) and imported fill material.	
Undertake a visual contamination assessment where potential pollution generation activities have occurred (e.g. hazardous substance storage, saline water storage) to identify potential signs of contamination. Where contamination is present, develop and implement a contamination remediation program to ensure that the rehabilitation objectives and rehabilitation completion criteria for the intended post-exploration land use are met.	
Phase: Landform Establishment	
Characterisation of Waste Materials (Geochemical and Geotechnical)	
Characterisation analysis is conducted and geochemical and physical properties of waste materials are understood. Consideration should be given to the following as relevant: • adopt an appropriate geological model (typically block model for metalliferous mines) to determine source of problematic material. • collect rehabilitation material erosion data for calibration of landform stability models. • establish an ongoing sampling program to identify potential changes in material properties. • develop a strategy / procedure/ management plan for selective handling and management of problematic materials (e.g. potential acid forming material, spontaneous combustion). • ensure material handling field practices are in accordance with relevant plan/procedure.	

Table A (Cont'd)
Rehabilitation Risk Control Checklist

Rehabilitation Phase / Activity	Comment / Completion Date(s)
Phase: Landform Establishment (Production) (Cont'd)	
Landform Design/Shape	
The final landform design should build on the minimum requirements of the development consent and, wherever practicable, take into account the following: • a landform that is commensurate with surrounding natural landform and, where appropriate, incorporates geomorphic design principles. • appropriate use of landform design stability principles of reduced slope length and surface water management structures. • use of erosion models to optimise the landform design and to show where high-risk erosion areas are likely to occur (and to nominate how risk controls will be incorporated into the final landform design to appropriately treat these risks).	
Develop specific strategies (e.g. selective handling and placement) for materials management to address potential geochemical constraints for rehabilitation (e.g. need to application of gypsum) based on sampling and testing of overburden/interburden materials used to construct the final landform.	
Develop specific strategies (e.g. selective handling and placement) to address any potential geotechnical issues associated with the final landform, including seepage pathways into groundwater and surface waters, for example saline seepage. Based on risk, these strategies may need to be developed in consideration of geotechnical studies.	
Final Voids	
Where a final void is approved to remain as part of the final landform (e.g. by the development consent), the design and construction should be developed in accordance with the minimum requirements of the development consent, associated environmental assessments/environmental impact statements and in consideration of the following: • a geotechnical assessment should be undertaken to determine the likely long-term stability risks associated with the proposed final landform, including any remaining highwalls or low walls (if any). Based on the outcome of this assessment, suitable measures (e.g. bunding and highwall fences) are to be implemented to minimise potential risks to public safety as well as support the final land use(s). • updated surface and groundwater assessments should be undertaken in relation to the likely final water level in the void and post mining water take (groundwater inflows into the void and surface water capture). This should include an assessment of the potential for fill and spill, along with measures required to be implemented to minimise associated impacts to the environment and downstream water users.	

Table A (Cont'd)
Rehabilitation Risk Control Checklist

Rehabilitation Phase / Activity	Comment / Completion Date(s)
Phase: Landform Establishment (Production) (Cont'd)	
Landform Design/Shape (Cont'd)	
The final void must address any relevant approval requirements of regulatory authorities and demonstrate the satisfaction of licensing requirements under the relevant legislation (e.g. *Water Management Act 2000*). This should include whether sufficient licence shares are available in the water source(s) to account for the water inflow into the final void(s).	
The final stabilisation and revegetation strategy associated with the final void should be designed and implemented based on the outcomes of the above assessments.	
As-Constructed Drawings	
Prepare 'as-constructed' drawings to verify that drainage and landform have been completed in accordance with design before 'growth medium development' phase.	
Phase: Growth Medium Development	
Before Commencing Rehabilitation (substrate preparation)	
Develop rehabilitation methodologies in consideration of site-specific constraints (e.g. topsoil and subsoil availability and quality, presence of contamination) required to achieve the approved, or if not yet approved, proposed rehabilitation objectives and rehabilitation completion criteria.	
Where revegetation is required, analyse representative samples to characterise the nature of the substrate (e.g. sodicity, particle size distribution, nutrient levels for planting) and determine any potential limitations to rehabilitation and sustainable plant growth. Immediately prior to application, collect and analyse samples of topsoil stockpiles to characterise material to determine any potential impacts to vegetation (e.g. sodicity, limited microbial activity, nutrients, organic matter).	
Use the results to determine specific amelioration techniques (e.g. addition of gypsum, lime, organic matter, fertiliser) that will be used to overcome potential limitations to landform stability, vegetation establishment and growth. Apply ameliorants (e.g. gypsum or lime) and organic material (e.g. mulch) based on the outcomes of the substrate characterisation analysis (as appropriate to address limitations in the revegetation substrate). Before revegetation activities, analyse the prepared substrate to determine whether amelioration measures have been successful.	

Table A (Cont'd)
Rehabilitation Risk Control Checklist

Rehabilitation Phase / Activity	Comment / Completion Date(s)
Phase: Growth Medium Development (Cont'd)	
Before Commencing Rehabilitation (substrate preparation) (Cont'd)	
Implement suitable erosion control measures (e.g. catch drains, sediments dams, silt fences, mulches, cover crops) to minimise soil loss from areas undergoing rehabilitation.	
Preferentially schedule and undertake revegetation activities in or just before suitable seasonal conditions.	
Where permissible, should revegetation be delayed due to unsuitable seasonal conditions, undertake temporary stabilisation measures (e.g. sterile cover crops, erosion and sediment controls) to avoid erosion and further land degradation.	
Return topsoil and subsoil layers in sequential order, assuming suitability of material for the final land use.	
During Rehabilitation (general methodologies)	
Use appropriate earthmoving equipment to avoid compacting the rehabilitation substrate.	
Restore soil structure by scarifying or ripping (if soil compaction or erosion has occurred) in parallel with the contour. Apply soil ameliorants (where required) such as fertiliser to the substrate before the start of revegetation activities.	
Implement erosion and sediment controls in accordance with *Managing Urban Stormwater: Soils and Construction Volume 2E, Mines and Quarries* (DECC 2008b).	
Where direct seeding is planned, rip final surfaces parallel with the contour before the application of seed to provide for an adequate seed bed.	
Topsoil shortages are to be supplemented with suitable alternatives such as biosolids, organic growth medium or another substitute, if required. However, the risk of introducing hazards to the establishment of the preferred plant community type (e.g. non-native species, elevated nutrient levels through the application of soil ameliorants) should be evaluated.	
Phase: Ecosystem and Land Use Establishment	
During Rehabilitation (revegetation – native ecosystem)	
Native revegetation activities in rehabilitation areas should preferentially use local provenance seed for direct seeding or tube stock propagation.	
Use of seed orchards or onsite nurseries should be considered to ensure an appropriate stock is maintained for rehabilitation works.	

Table A (Cont'd)
Rehabilitation Risk Control Checklist

Rehabilitation Phase / Activity	Comment / Completion Date(s)
Phase: Ecosystem and Land Use Establishment (Cont'd)	
During Rehabilitation (revegetation – native ecosystem) (Cont'd)	
Consider techniques such as brush-matting where disturbed areas are situated directly adjacent to mature native ecosystems/area of clearing associated with mining that provide a good source of local seed, to stabilise the site while natural recruitment occurs.	
Where adverse seasonal conditions (e.g. drought) or other factors affect the availability of local provenance seed and supplementary non-local provenance seed is required, seed stock should be purchased from reputable suppliers with quality control processes including seed viability testing. (It is good practice to record the name of the supplier and batch of seed being applied. Recording such details may assist in prevention/management of misidentified seeds).	
If revegetation is delayed due to unsuitable seasonal conditions, undertake temporary stabilisation measures (e.g. sterile cover crops, erosion and sediment controls) to avoid erosion and further land degradation.	
Undertake treatment of seed in terms to address issues such as seed dormancy and insect predation. Timing of treatment is to be aligned to timing of application with a focus on reducing the storage time of treated seed.	
Confirm the availability of seed and plant material and amend the seed mix or schedule of revegetation based on material supply.	
Spread seed as soon as possible following ripping/scarifying. If seeding is delayed following ripping/scarifying, undertake an assessment to determine whether further re-ripping/tilling is required before applying seed to ensure sufficient surface roughness (e.g. to break up any crusting that may have resulted from rainfall events).	
Develop a bushfire management plan (having regard to relevant ecological considerations and species fire tolerance) in consultation with NSW Rural Fire Service. Bushfire considerations should be factored into rehabilitation design (e.g. access tracks).	
Revegetation mix to capture species of all strata aligned to the plant community type. (If foundation species are being used, ensure that they do not compromise the attainment of the targeted plant community types).	
Use appropriate earthmoving equipment to avoid compacting the rehabilitation substrate.	
Weed/pathogen control on equipment for sensitive sites to prevent the spread of pathogens.	

Table A (Cont'd)
Rehabilitation Risk Control Checklist

Rehabilitation Phase / Activity	Comment / Completion Date(s)
Phase: Ecosystem and Land Use Establishment (Cont'd)	
During Rehabilitation (revegetation – native ecosystem) (Cont'd)	
Rehabilitation can include direct seeding and/or tube stock planting. Seed germination and seeding/seedling rate records are to be retained so that future rates can be assessed to ensure that target densities are achieved.	
Maximise the number of target species (groundcover, mid-story and canopy) within the first round of revegetation activities to facilitate species richness. If the target plant community type requires a staged seeding approach to achieve the species mix, underrepresented species may be prioritised in subsequent revegetation rounds.	
Stock control fencing should be erected where required to protect ecological rehabilitation areas.	
Rehabilitation Establishment Inspections	
Conduct an initial establishment inspection no later than three months following the completion of each rehabilitation campaign to determine whether performance issues have occurred or are emerging, which have the potential to delay revegetation establishment.	
Conduct regular site inspections (e.g. at least quarterly) to assess soil conditions and erosion, drainage and sediment control structures, runoff water quality, revegetation germination rates, plant health and weed infestation, until vegetation has become well established and the site can be considered stable.	
Where possible, use drones or LiDAR to conduct additional inspections and analysis of developing rehabilitation.	
Record outcomes of inspections and implement any required intervention/adaptive management actions as soon as practicable after a monitoring program indicates that rehabilitation performance is unsatisfactory as part of the rehabilitation management and maintenance program.	
Rehabilitation Monitoring Programs	
Implement long-term rehabilitation monitoring program and evaluate trajectory of rehabilitation against achieving rehabilitation objectives and rehabilitation completion criteria.	
Broadly, the scope of the ecosystem rehabilitation monitoring program will be required to include indicators that measure site condition, vegetation composition and vegetation structure and ecosystem function. The range of indices should directly relate to the rehabilitation objectives and rehabilitation completion criteria identified for the specific ecological outcome.	

Table A (Cont'd)
Rehabilitation Risk Control Checklist

Rehabilitation Phase / Activity	Comment / Completion Date(s)
Phase: Ecosystem and Land Use Establishment (Cont'd)	
Rehabilitation Monitoring Programs (Cont'd)	
While the program should be designed to be comparable between monitoring periods, the program will also need to be flexible to enable incorporating evolving best practice in monitoring techniques.	
Include the monitoring and control of changes to surface and groundwater quality over time.	
The scope of the monitoring program should usually include photographic monitoring from fixed points.	
Rehabilitation Management and Maintenance Program	
Develop and implement a rehabilitation management and maintenance program based on the needs identified in the rehabilitation monitoring program. Examples of what this program may include are as follows: • weed and feral animal control. • erosion and drainage control works. • reseeding/planting of failed rehabilitation areas (e.g. through lack of germination, high plant mortality rate). • repairing fence lines, access tracks and other general related land management activities. • regular site inspections to assess rehabilitation performance. The objective of this program is to facilitate rehabilitation progressing towards achieving the rehabilitation objectives and rehabilitation completion criteria in accordance with an approved progressive rehabilitation schedule (forward program).	
Phase: Ecosystem and Land Use Development (Management of Rehabilitated Lands)	
During Rehabilitation (revegetation – native ecosystem)	
Continue rehabilitation management and maintenance program (refer to Ecosystem Establishment Phase) until rehabilitation can be demonstrated to have achieved the approved rehabilitation objectives, rehabilitation completion criteria and (for large mines) the final landform and rehabilitation plan.	
Continue rehabilitation monitoring programs (refer to Ecosystem Establishment Phase) until rehabilitation can be demonstrated to have achieved the approved rehabilitation objectives, rehabilitation completion criteria and (for large mines) the final landform and rehabilitation plan.	
Actively manage rehabilitated lands to achieve the approved final land use(s).	