CADIA

710-005-EN-PLA-0026

REHABILITATION MANAGEMENT PLAN

DOCUMENT CONTROL

Rev	Date	Description of changes	Reviewer	Approver
1	30/11/2022	New Plan to align with Regulatory Changes and MOD14 requirements.	Brad Stokes	Aaron Brannigan
1.1	30/11/2023	Annual update of RMP following approval of Rehabilitation Objectives and Final Landform & Rehabilitation Plans, update of the Rehabilitation Risk Assessment, and progress against Section 240 Notices.	David McQueeney	David Coe
1.2	13/06/2024	Minor updates to include missed PA 06_0295 conditions identified in the 2023 *Independent Environmental Audit* (IEA). Removed reference to Cadia Valley Operations (replaced by Cadia)	David McQueeney	David Coe
1.3	04/12/2025	RMP revised to align with regulatory changes, MOD 15 requirements and updated Final Landform and Rehabilitation Plan.	Lachlan McConnel	Dirk Sanderson

INTERNAL APPROVAL

Rev	Approval Date	Signature
1.3	4/12/2025	 Dirk Sanderson Lead – Environment

SUMMARY TABLE

Rehabilitation Management Plan (RMP)	Approval Date	
Name of Mine	Cadia	
Rehabilitation Plan Commencement Date	30/11/2022	
Rehabilitation Management Plan Revision Dates and Version Numbers	Version 1: 30/11/2022	
	Version 1.1: 30/11/2023	
	Version 1.2: 13/06/2024	
	Version 1.3: 04/12/2025	
Mining Lease Numbers and Expiry dates	**Mining Lease**	**Expiry Date**
	ML 1405	5 October 2038
	ML 1449	5 October 2038
	ML 1472	22 October 2021 (renewal pending)
	ML 1481	7 March 2043
	ML 1689	11 September 2034
	ML 1690	10 September 2034
Name of Lease Holder	Cadia Holdings Pty Ltd (CHPL)	

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1 PART 1 - INTRODUCTION TO MINING PROJECT

Cadia Mine (Cadia) is a metalliferous mining operation located 25 kilometres (km) south-west of Orange, NSW (refer to **Figure 1**). Cadia is owned and operated by Cadia Holdings Pty Ltd (Cadia), a wholly owned subsidiary of Newmont Corporation (Newmont).

Project Approval (PA) 06_0295 has been modified 15 times since issue, with the most recent modification (Modification 15) approved on 31 January 2025.

1.1 History of Operations

1.1.1 Cadia Hill Open Pit

Cadia Hill was the first development at Cadia. It was a large open cut mine approved in September 1996 and operated by Cadia. The mine commenced operations in 1998 and operated until June 2012 when the mine was placed into 'care and maintenance.'

The Cadia Hill approval included construction of:

- The South Waste Rock Dump (SWRD)
- The North Waste Rock Dump (NWRD)
- The Northern Tailings Storage Facility (NTSF)
- The Ore Processing Facility
- Ancillary infrastructure, including pumps, power lines, water infrastructure, roads, water storage dams (including Cadiangullong Dam).

The approval also included development and extraction of ore from a small secondary open cut pit known as Cadia Extended (which has since been largely backfilled- – refer to **Section 1.1.4**).

In 2018, the Cadia Hill Pit was approved to be utilised for tailings deposition following a partial slump of the NTSF embankment. Cadia Hill Pit has since been known as the Pit Tailings Storage Facility (PTSF). In 2019 Cadia received approval to increase the final tailings deposition elevation to 713m AHD (pre-consolidation), with filling above 693m AHD subject to the fulfillment of conditions.

1.1.2 Ridgeway / Ridgeway Deeps Underground Mine

Ridgeway is an underground sub-level and block caving mine with associated Subsidence Zone, located approximately 2.5 kilometres (km) northwest of Cadia Hill. Ridgeway was approved in October 2000 and commenced operations in 2002. The approval of Ridgeway also included the construction of the Southern Tailings Storage Facility (STSF) and Rodds Creek Dam. Ridgeway Deeps was an underground extension, approved in 2005.

Ridgeway (encompassing Ridgeway / Ridgeway Deeps) ceased active mining in September 2017 and has been in 'care and maintenance'. However, PA 06_0295 Modification 15 allows for mining in Ridgeway to recommence.

1.1.3 Cadia East Underground Mine

The Cadia East Project was granted approval in 2010 under PA 06_0295, with 15 subsequent modifications. The approval permits the development of the Cadia East Mine; an underground panel cave mine with associated Subsidence Zone. It also includes the expansion of the Ore Processing Facility, expansion and height increase of the NTSF to 779m AHD and STSF to 702m AHD using the centreline or downstream lift construction methodology, and an increase to the height and storage volume of Rodds Creek Dam. Also approved as part of Modification 15 is the decommissioning of the Upper Rodds Creek Dam post-closure.

PA 06_0295 permits the total extraction of 525 million tonnes (Mt) of ore (gold, copper, molybdenum and other trace metals), at a maximum rate of 35 million per annum[1] (Mtpa).

Mining is approved until 30 June 2031.

Cadia East commenced mining operations in January 2013 following the expansion of the ore processing facilities, construction of underground materials handling systems and development of Cadia East Panel Cave 1 (PC1).

A resource definition drilling program is ongoing.

1.1.4 Rehabilitation

Progressive rehabilitation has been undertaken on the following sites:

- NWRD: the waste rock dump has been completed, profiled, topsoil applied and revegetation activities undertaken. The composition and structure of vegetation requires attention prior to completion of rehabilitation (refer to Section 240 Notices described below).
- SWRD: progressive batters on the western and southern slopes of the waste rock dump have been profiled, topsoil applied and revegetation commenced. A significant portion of rehabilitated SWRD (Non-Acid Forming (NAF) portion) will be re-disturbed under Modification 15, to allow the recovery of material for the repair of the NTSF slump, and construction of the NTSF and STSF embankments (refer to **Section 6.1.1(d)**).
- Access Road.
- Cadiangullong Creek: The creek diversion has been completed and revegetation activities conducted to re-instate riparian vegetation communities.
- Cadia Extended: The former pit has been largely backfilled with waste rock mined from the Cadia Hill Pit with An approximately 5 hectare area profiled, topsoiled and revegetated with the balance of the area used for laydown yards and other activities.
- Ridgeway Laydown Yards.

Under Section 240 of the *Mining Act 1992* the NSW Resources Regulator (NSW RR) has issued five notices to Cadia identifying that the NWRD and SWRD require further rehabilitation activities to be conducted. An overview of the notices received is included below:

- Notice NTCE0012411 (issued: 19 June 2023) - required Cadia to engage a suitably qualified expert to undertake an assessment that sets out the design of modifications to the rehabilitated landform and surface water management structures on the NWRD & SWRD to address the identified instability and erosion risks;
- Notice NTCE0011394 (issued: 19 June 2023) - identifies observation of target vegetation community (Eucalypt Woodland) failing to establish, and provides directions required to address the observations; and
- Notice NTCE0017029 (issued 15 April 2025) - This Notice superseded NTCE0015837 (issued 4 December 2024) and NTCE0016370 (issued 14 February 2025) and required the preparation of a Rehabilitation Enhancement Strategy developed by suitably qualified and independent persons. Rehabilitation Enhancement Strategy (Umwelt, 2025) has been developed and issued to the NSW RR.

Cadia is continuing to address requirements of these notices, with further detail in **Section 0**.

The NSW RR completed two Targeted Assessment Programs (TAPs) at Cadia in 2024. TAPs focus on critical controls across mine sites to ensure measures have been identified and implemented to

[1] Currently extraction greater than 32Mtpa being subject to the fulfillment of conditions identified in the Project Approval.

facilitate sustainable rehabilitation outcomes. One of the primary aims of the TAP is to assist industry with continual improvement in rehabilitation outcomes.

On 1 October 2024 a Revegetation TAP was conducted, focusing on how revegetation is being undertaken to achieve sustainable rehabilitation outcomes at Cadia. TAP recommendations were issued by the NSW RR on 13 November 2024.

On 19 November 2024 a Tailings Management TAP was conducted at Cadia. TAP recommendations were issued by the NSW RR on 11 December 2024.

Further, as required under Schedule 8A of the Mining Regulation 2016 Cadia submitted the Annual Rehabilitation Report and Forward Program (ARRFP) by the 29th of August annually.

1.1.5 Demolition

Several small buildings have been demolished and removed within the Ore Processing complex (including the environment shed and site metallurgical laboratory), exploration offices and tailings storage facility development footprint (Te Anau homestead).

1.2 Current Development Consents, Leases and Licences

The current consents, authorisations and licences are listed in **Table 1**.

Table 1 Cadia– Statutory Approvals Summary

Project Approvals *(Environmental Planning and Assessment Act 1979)*			
Authorisation	**Relevant Authority**	**Date Approved**	**Expiry Date**
Cadia East Project Approval (PA 06_0295)	Department of Planning (DoP)	6-Jan-10	30-Jun-31
Cadia East Modification 1 – Cadia Hill Decline	DoP	17-Sep-10	30-Jun-31
Cadia East Modification 2 – Blayney Dewatering Facility	DoP	25-Oct-10	30-Jun-31
Cadia East Modification 3 – Concentrate Pipeline	Department of Planning and Infrastructure (DoPI)	9-Aug-11	30-Jun-31
Cadia East Modification 4 – Surface Preconditioning (Hydraulic)	Department of Planning and Environment (DPE))	5-May-14	30-Jun-31
Cadia East Modification 5 – Surface Preconditioning (Blasting)	DPE	14-Aug-14	30-Jun-31
Cadia East Modification 6 – Processing Rate Increase	DPE	31-Aug-15	30-Jun-31
Cadia East Modification 7 – Biodiversity Offsets	DPE	4-Aug-15	30-Jun-31
Cadia East Modification 8 – Administrative	DPE	28-Apr-16	30-Jun-31
Cadia East Modification 9 – Surface preconditioning and on-site warehouse	DPE	21-Apr-17	30-Jun-31
Cadia East Modification 10 – Molybdenum Plant relocation	DPE	12-Apr-18	30-Jun-31
Cadia East Modification 11 Cadia Hill Pit Tailings Disposal	DPE	20-Apr-18	30-Jun-31
Cadia East Modification 12, Cadia Hill Tailings Continuation Modification	DPE	24-Sep-18	30-Jun-31

Cadia East Modification 13, Cadia Hill Tailings Completion and STSF Buttress.	Department of Planning, Industry and Environment (DPIE)	20-Dec-19	30-Jun-31
Cadia East Modification 14, Increased Processing Rate.	DPIE	13-Dec-21	30-Jun-31
Cadia East Modification 15, Tailings Storage Facility Embankment Buttressing	Department of Planning, Housing and Infrastructure (DPHI)	31-Jan-25	30-Jun-31
Mining Act 1992 Approvals			
Mining Leases	**Relevant Authority**	**Grant Date**	**Expiry Date**
ML1405	DPI-MR	5-Oct-96	5-Oct-38
ML1449	DPI-MR	1-Jun-99	5-Oct-38
ML1472	DPI-MR	23-Oct-00	22 October 2021 (renewal submitted, 19/10/2020 – pending approval)
ML1481	DPI-MR	8-Mar-01	7-Mar-43
ML1689	DPI-MR	11-Sep-13	11-Sep-34
ML1690	DPI-MR	10-Sep-13	10-Sep-34
Ancillary Mining Leases			
MLA506	Cadiangullong Dam inundation area	Pending	-
MLA 505	Flyers Creek pumping facility	Pending	-
Exploration Licences (overlaying mining leases)			
EL3856	Newcrest Mining Limited	-	21-May-27
EL2378	Newcrest Operations Limited	-	8-Nov-26
EL2984	Cadia Holdings Pty Limited	-	11-Jan-28
EPL1024	Newcrest Operations Limited	-	21-May-28
Protection of the Environment Operations Act 1997 Approvals			
Title	**Authority**	**Version**	**Expiry**
Environment Protection Licence Approval No. 5590	NSW Environment Protection Authority	Granted: June 2006 Version: 10 July 2025	-
Heritage Act 1977 Approvals & Permits			
Purpose	**Authority**	**Issue Date**	**Expiry**
General Monitoring/Archival Recording	Heritage Council of NSW	Dec-97	-
Development Consent for a Rural Cemetery, Garden of Remembrance and Interpretive Centre	Blayney Shire Council	Aug-99	- -
Cadia Engine House – Power Poles	Heritage Council of NSW	Dec-02	-
Cadia Engine House - Strengthening	Heritage Council of NSW	Dec-02	-
Little Cadia Excavation Permit	Heritage Council of NSW	Apr-05	-
Big Cadia Excavation Permit	Heritage Council of NSW	Apr-06	-

Retention of existing strengthening of Engine House, Crusher Room and Chimney	Department of Planning (Heritage)	Dec-18	-
Prescribed Dams (Dams Safety Act 1978)			
Structure	**Authority**	**Approval date**	**Expiry**
Cadiangullong Dam	Dams Safety Committee	Aug-96	-
Cadia Hill Gold Mine tailings storage facility	Dams Safety Committee	Jun-98	-
Southern Tailings Storage Facility	Dams Safety Committee	Jul-01	-
Rodds Creek Dam	Dams Safety Committee	Jul-01	-
Crown Land Management Act 2016			
Enclosure Permits	**Authority**	**Issue Date**	**Expiry**
Enclosure Permit (No. 20364)	Department of Land and Water Conservation	Aug-99	-
Water Management Act 2000			
Water Access Licences (WAL)	**Authority**	**Issue Date**	**Expiry**
31062 – Orange Basalt water source	NSW Office of Water	Sep-12	-
28099 – Orange Basalt water source	NSW Office of Water	Jan-12	-
31072 – Lachlan Fold Belt (Site Borefield)	NSW Office of Water	May-13	-
31505 – Lachlan Unregulated and Alluvial Water Source. Narambon.	NSW Office of Water	Jul-17	-
31517 – Lachlan Unregulated and Alluvial Water Source. Stratton Vale	NSW Office of Water	May-13	-
31527 – Belubula tributaries below Carcoar Dam	NSW Office of Water	Aug-13	-
32255 – Belubula River Supplementary Water Source (Supplementary)	NSW Office of Water	Sep-14	-
32280 – Belubula River Regulated Water Source (General Security)	NSW Office of Water	Aug-15	-
36229 – Lachlan Fold Belt (Mine Dewatering Bore)	NSW Office of Water	Jan-12	-

1.3 Ownership

Land to which this Rehabilitation Management Plan (RMP) relates is variously owned by the following Newmont Corporation subsidiary companies:

- Cadia Holdings Pty Ltd, and
- Contango Agricultural Company Pty Ltd.

Some areas comprising vacant Crown Land, Crown roads and public roads are also located within the mining lease areas. The built environment and land ownership is presented in **Figure 3**.

Table 2 provides a summary of land titles as they apply to the mining leases. With the exception of Crown land, Crown roads and public roads, all other land within the mining leases is freehold title and wholly owned by one of the referenced Newmont subsidiary companies.

Table 2 Property Descriptions Within Existing or Proposed Mining Leases

Existing Mining Leases		
Lot Number	**Deposited Plan Number**	**Parish**
2	1093785	Clarendon
9	113692	Clarendon
10	113692	Clarendon
128	750371	Clarendon
127	750371	Clarendon
126	750371	Clarendon
125	750371	Clarendon
124	750371	Clarendon
96	750371	Clarendon
95	750371	Clarendon
97	750371	Clarendon
212	865598	Clarendon
211	865598	Clarendon
93	750371	Clarendon
100	576778	Clarendon/Waldegrave
8	209035	Waldegrave
40	705768	Waldegrave
1	47553	Waldegrave
158	750371	Clarendon
134	750371	Clarendon
153	750371	Clarendon
6	511485	Clarendon
100	750371	Clarendon
87	750371	Clarendon
5	865599	Clarendon

Existing Mining Leases		
Lot Number	**Deposited Plan Number**	**Parish**
99	750371	Clarendon
A	437767	Clarendon
166	750371	Clarendon
6	865599	Clarendon
103	750371	Clarendon
C	437767	Clarendon
101	576778	Waldegrave
2	47553	Waldegrave
3	47553	Waldegrave
15	234195	Waldegrave
18	234195	Waldegrave
4	209035	Waldegrave
3	209035	Waldegrave
17	234195	Waldegrave
6	209035	Waldegrave
7	655732	Waldegrave
19	234195	Waldegrave
20	234195	Waldegrave
21	750415	Waldegrave
41	705768	Waldegrave
8	47553	Waldegrave
22	750415	Waldegrave
7	47553	Waldegrave
23	1078095	Waldegrave
49	750371	Clarendon
3	113692	Clarendon
10	252284	Waldegrave
6	47553	Waldegrave

Existing Mining Leases		
Lot Number	**Deposited Plan Number**	**Parish**
240	750415	Waldegrave
193	750415	Waldegrave
192	750415	Waldegrave
241	750415	Waldegrave
2	47552	Waldegrave
151	750415	Waldegrave
155	750415	Waldegrave
152	750362	Blake
64	750362	Blake
5	47552	Blake
1	816924	Blake
275	750415	Waldegrave
242	750415	Waldegrave
252	750415	Waldegrave
5	47553	Waldegrave
254	750415	Waldegrave
3	47552	Waldegrave
1	47552	Waldegrave
2	816924	Blake/Waldegrave
20	750415	Waldegrave
7001	1020360	Waldegrave
253	750415	Waldegrave
255	750415	Waldegrave
287	750415	Waldegrave
295	823457	Waldegrave
16	234195	Waldegrave
247	750415	Waldegrave
272	750415	Waldegrave

Existing Mining Leases		
Lot Number	**Deposited Plan Number**	**Parish**
248	750415	Waldegrave
251	750415	Waldegrave
1	750362	Blake
2	750362	Blake
5	750362	Blake
21	825426	Blake
3	731180	Blake
3	750362	Blake
4	750362	Blake
1	731180	Blake
22	825426	Blake
6	47552	Blake/Waldegrave
24 part	750362	Blake
25	750362	Blake
201 part	1037198	Carlton
21	1038104	Blake
38	750362	Blake
39	750362	Blake
102	1040753	Blake/Waldegrave
3	871086	Blake
43	750362	Blake
32	1217542	Blake
1422	1168271	Blake and Carlton
50	1132784	Carlton
157	40039	Carlton
23 part	1078095	Waldergrave
102 part	1040753	Blake / Waldergrave
22 part	1078095	Waldergrave

Existing Mining Leases		
Lot Number	**Deposited Plan Number**	**Parish**
Cadia Road part	Between lot 23 DP1078095 and Lot 22 DP1078095	Waldergrave
3 part	871086	Blake
21 part	1038104	Blake
Crown roads and public roads located within and between the above titles		
Crown land located within and between the above titles		

1.3.1 Land Use

The dominant land use in the Cadia region is agriculture, principally grazing (sheep and cattle), cropping (winter forage crops), mining and orchards. Other primary production activities include honey production, viticulture and softwood plantations (predominantly Monterey Pine (*Pinus radiata*)). Historical mining has occurred in the vicinity of Cadia since the 1850s with mining remnants common in the district. An increasing land use in the area is hobby farming/lifestyle blocks. The area is moderately populated with approximately 150-200 property owners identified as key stakeholders. Land ownership is presented in **Figure 3**.

To offset biodiversity losses associated with Modification 14 to PA 06_0295, Cadia has established a Biodiversity Stewardship Site within a portion of ML1472, totalling approximately 140 Ha. The stewardship site agreement was executed 19th of April 2024 and is operated under an approved management plan developed in consultation with NSW BCT. Management of this portion of ML1472 post-closure is governed by the aforementioned management plan.

Historic, current and proposed final land uses for land under the control/ownership of Newmont subsidiary companies is presented in **Table 3**. Historic heritage and Plant Community Types are presented in **Figure 4.**

Table 3 Proposed Final Land Uses

Current Approved Mining Lease Areas		
Historic Land Uses	**Current Land Use**	**Proposed Future Land Use(s)**
Mining (historic)	Mining / mining related	Native Ecosystems (conservation) Agriculture (Grazing) Pasture with scattered trees. Retained infrastructure (future industrial land use) Water Infrastructure
Mining (historic)	Heritage landscapes	Heritage landscapes (preservation and potential public access / tourism)
Agriculture	Mining / mining related Agriculture	Agriculture (grazing) Native Ecosystems (Conservation) Retained infrastructure (future industrial land use) Water Infrastructure
Agriculture	Agriculture	Native Ecosystems (Stewardship Site)

Current Approved Mining Lease Areas		
Historic Land Uses	**Current Land Use**	**Proposed Future Land Use(s)**
Softwood plantation	Mining / mining related	Native Ecosystems (conservation) Agriculture (Grazing) Pasture with scattered trees. Retained infrastructure (future industrial land use) Water Infrastructure

Figure 1: Project Locality

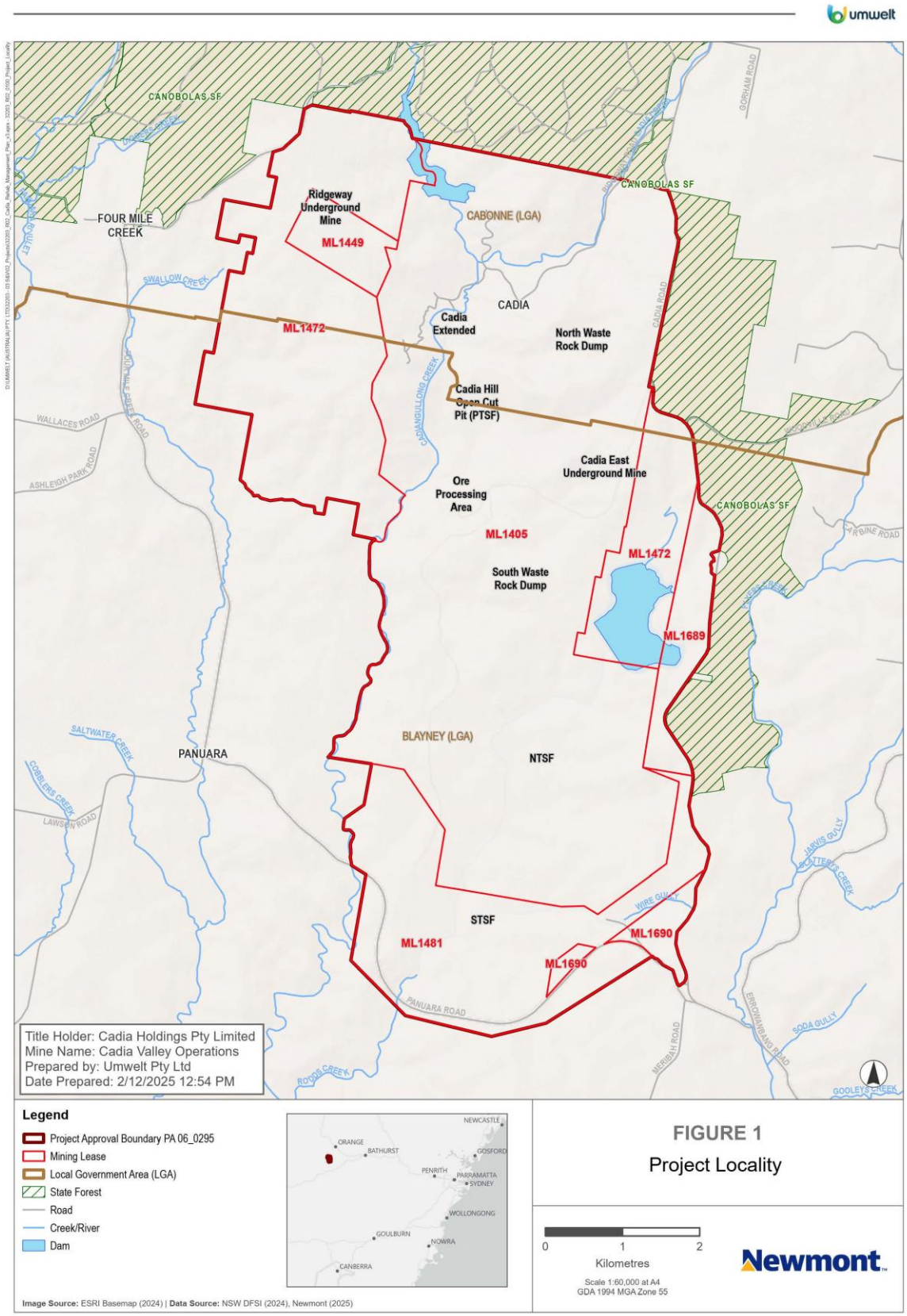


Figure 2: Land Use and AHIMS Results

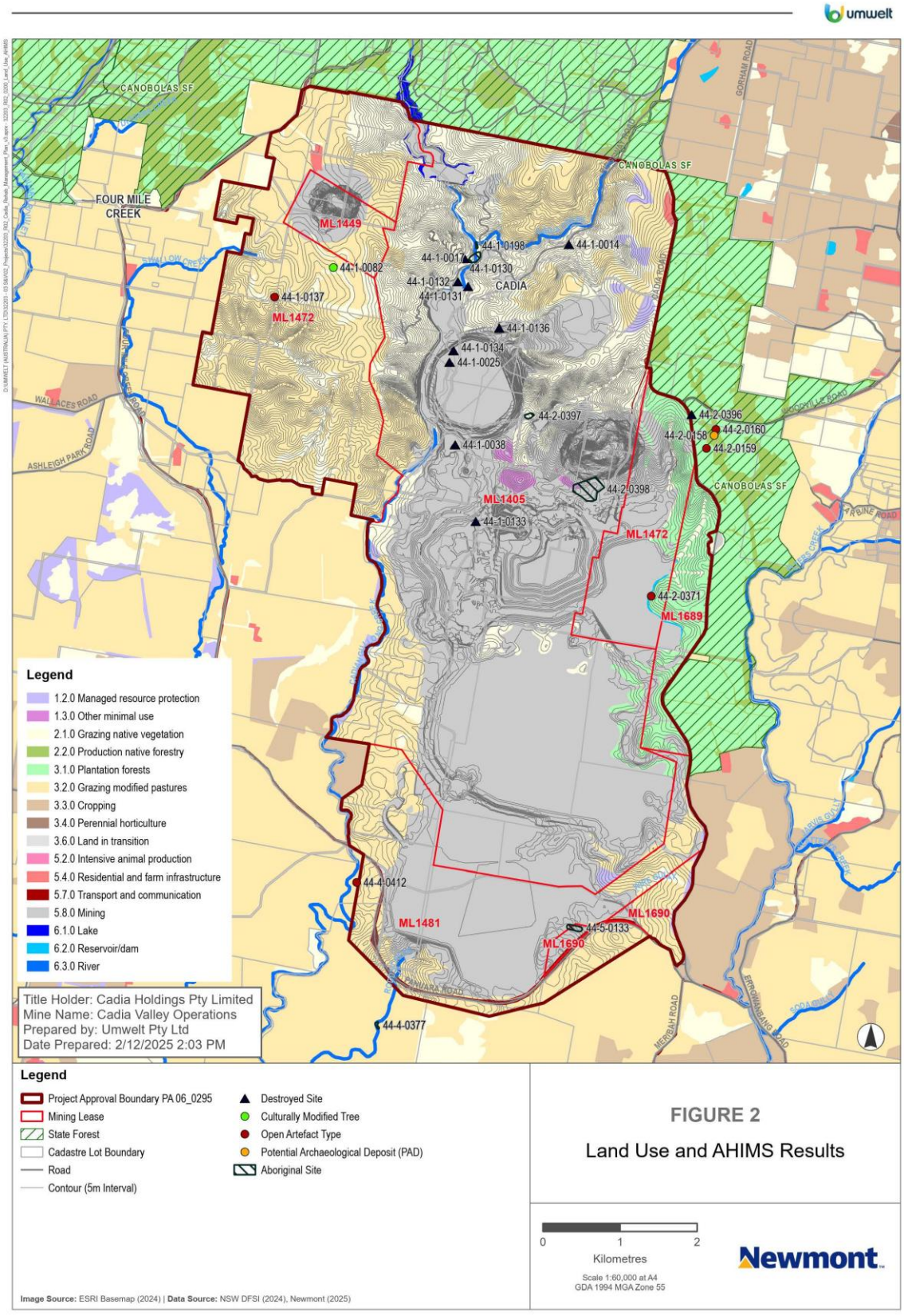


Figure 3: Built Environment and Land Ownership

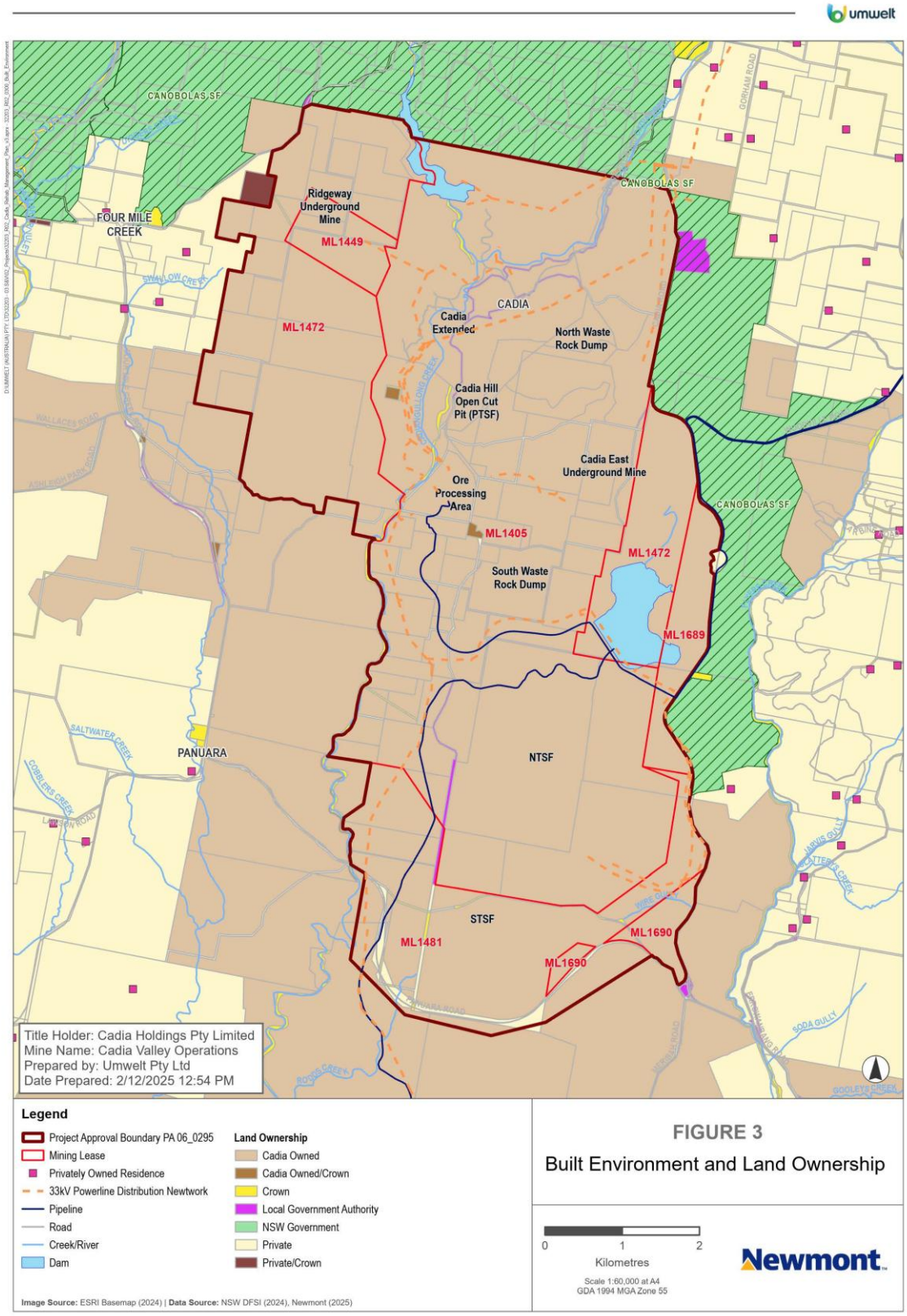
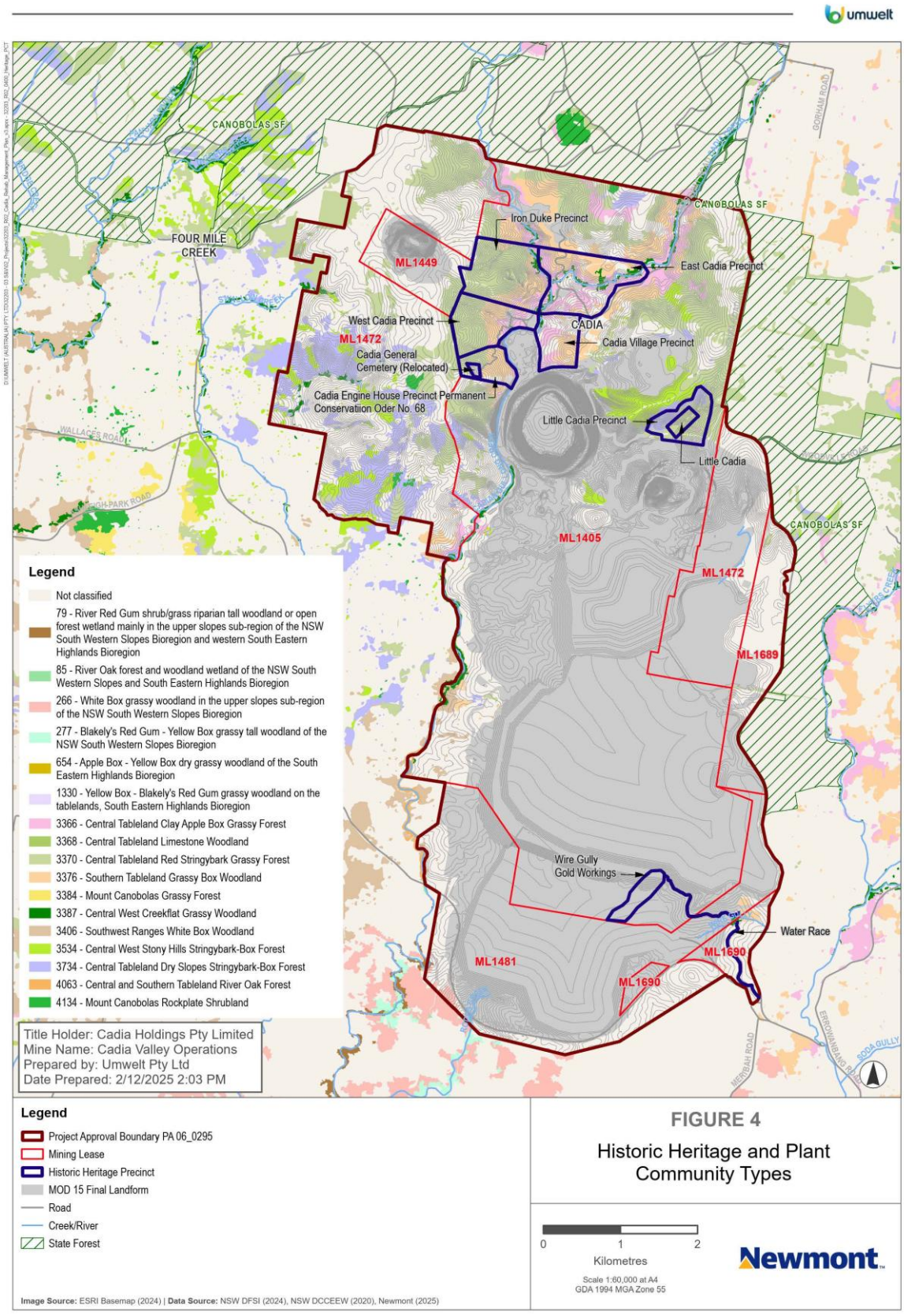


Figure 4: Historic Heritage and Plant Community Types



2 PART 2 – FINAL LAND USE

2.1 Regulatory Requirements for Rehabilitation

2.1.1 Conditions of Development Consent

Table 4 contains rehabilitation specific conditions imposed by PA 06_0295 (Modification 15). Conditions related to rehabilitation outside of mining leases have been excluded from the table but can be obtained from the consolidated consent located on the Cadia website or from the NSW Government Major Projects website.

Table 4 Cadia East Project Approval Conditions

Condition No.		Condition	Relevant Domains / Areas	Section of RMP
Schedule	Condition			
2	1	The Applicant must implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.	All	Section 3
3	36	The Applicant must prepare a Rehabilitation Strategy for the project to the satisfaction of the Secretary. This strategy must: (a) be prepared by a team of suitably qualified and experienced experts whose appointment has been endorsed by the Secretary; (b) be prepared in consultation with relevant stakeholders, including the RR, NSW Resources, BCS, DCCEEW Water, Councils and the CCC; (c) investigate options for the future use of disturbed areas including voids upon the completion of mining; (d) include overview of anticipated rehabilitation risks and risk treatment controls; (e) define the rehabilitation objectives for the site, describe the overall rehabilitation outcomes for the site, and address all aspects of rehabilitation, including mine closure, final landform (including any final voids), post-mining land use/s and water management; (f) include a conceptual final landform and rehabilitation plan; (g) include a life of mine rehabilitation and mining schedule which outlines key progressive rehabilitation milestones from the commencement of operations through to decommissioning and mine closure; and (h) outline ways to minimise adverse socio-economic effects associated with rehabilitation and mine closure; (i) include a stakeholder engagement plan to guide rehabilitation and mine closure planning processes and outcomes; (j) align with strategic rehabilitation and mine closure objectives and address the principles of the Strategic Framework for Mine Closure (ANZMEC and MCA) and Global Industry Standard on Tailings Management undertaken as part of the Global Tailings Review; (k) describe how the rehabilitation measures would be integrated with the measures in the Biodiversity Management Plan referred to in conditions 41 and 41A; and (l) include a program to periodically update this strategy at least every three years. *Note: The strategy should build on the concept strategy depicted in Appendix 6.*	All	N/A – refer to Rehabilitation Strategy.
3	36A	The Applicant must implement the approved Rehabilitation Strategy. *Note: The Applicant must also prepare and implement a Rehabilitation Management Plan in accordance with the conditions imposed on the mining lease(s) associated with the project under the Mining Act 1992.*	All	N/A – refer to *Rehabilitation Strategy*.
3	37	The Applicant must: (a) carry out rehabilitation progressively, that is, as soon as reasonably practicable following disturbance; and	All	Section 4, Section 6.1

Condition No.		Condition	Relevant Domains / Areas	Section of RMP
Schedule	Condition			
		(b) achieve the rehabilitation objectives in the Rehabilitation Strategy (see condition 36), to the satisfaction of the RR.		Section 6.1
3	38	The Applicant must: (a) implement the biodiversity offset strategy as described in the EA, and summarised in Table 14 (and shown conceptually in Appendix 6); and (b) investigate ways to salvage and beneficially use resources (including timber, fauna habitat, seed and soil resources) in areas subject to subsidence as far as is reasonable and feasible, in consultation with the BCS, to the satisfaction of the Secretary.	All	N/A – refer to *Biodiversity Management Plan* Section 6.2.1 K. Ongoing Management of Biological Resources for Use in Rehabilitation
3	41	Prior to any vegetation clearing impacting biodiversity values, as identified in the Biodiversity Development Assessment Report for Modification 15, unless otherwise agreed by the Secretary, the Applicant must prepare a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with BCS; (b) include: (i) the rehabilitation objectives for the offset areas; (ii) a description of the short, medium, and long term measures that would be implemented to implement the offset strategy and manage the remnant vegetation and habitat on the site and in the offset areas; (iii) detailed performance and completion criteria for the implementation of the offset strategy; (iv) a detailed description of the measures that would be implemented, including the procedures to be implemented for: • managing and mitigating impacts on biodiversity values, particularly for the Superb Parrot and Squirrel Glider; • implementing revegetation and regeneration within offset areas, including establishment of canopy, sub-canopy (if relevant), understorey and ground strata; • collecting and propagating seed for rehabilitation works; • salvaging and placement of habitat features; • controlling weeds and feral pests, including terrestrial and aquatic species; • managing grazing and agriculture on site; • controlling access; • bushfire management; (v) a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria; (vi) a description of the potential risks to successful revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; (vii) details of who would be responsible for monitoring, reviewing, and implementing the plan; and	All	Refer to *Biodiversity Management Plan*. Also discussed in this document in Section 6.2.4 Section 6.2.5

Condition No.		Condition	Relevant Domains / Areas	Section of RMP
Schedule	Condition			
		(viii) a Threatened Species Management Protocol, which outlines management strategies to protect any threatened flora and fauna species during construction, operation and post-mining.		

2.1.2 Cadia East Environmental Assessment

As specified by Schedule 2, Condition 2 of the Cadia East Approval, the development must be carried out generally in accordance with the Environmental Assessment. Commitments relating to the rehabilitation of mine-disturbed areas are summarised from the Cadia East Environmental Assessment[2] in **Table 5**.

[2] The relevant appendix (relating to mine rehabilitation) from the Cadia East Environmental Assessment (CHPL 2009) is Appendix P and can be sourced (for further information) from the following link: Cadia Website

Table 5 PA 06_0295 Rehabilitation Commitments

Commitment	Relevant Domains / Areas	Timing	Section of RMP
North Waste Rock Dump (NWRD)			
• The North Waste Rock Dump would have maximum batter slopes of 1:3, with 15 to 20 metre (m) wide, step-back, reverse graded berms and rock lined drains.	Waste Rock Dumps	Complete.	Section 6.2.1 (a) Section 6.2.1 (d) Section 6.2.3 (b)
• PAF material contained in the dump would be encapsulated by covering with 0.5 m of clay followed by 2 to 3 m of non-acid forming (NAF) material.		Complete.	
• This would be covered by 20 to 30 centimetres (cm) of topsoil. Drainage control structures would be installed where necessary.		Complete.	
• Original commitment: Revegetation using locally collected seed of similar forest community species including grasses and other native forbs and appropriate local native wetland plants. • Revised commitment: The North Waste Rock Dump would be revegetated with native woodland plant species consistent with E. macrorhyncha – E. goniocalyx – E. polyanthemos woodland community (3a, 3b). Revegetation would utilise locally collected seed (where available).		Updated to align with approved NSW RR Rehabilitation Objectives. Additional seeding / planting and weed management required to achieve final land use.	Section 4 Section 6.2.5
• Creation of additional habitat using cleared trees from areas and the installation of nesting boxes and salvaged hollows, targeting threatened and declining woodland species.		In progress	Section 6.2.1 (b) and (c)
• Original commitment: Construction of chains-of-ponds (wetlands) in the south west area to assist clean water drainage from the area and increase habitat and ecological function • Revised commitment: Conduct further trials into the efficacy of chains-of-ponds (wetlands) to assist clean water drainage from the area and increase habitat and ecological function		Ongoing	Section 6.2.1(h)
• Undertake additional rehabilitation works should performance indicators not be met, such as ripping, re-seeding, supplementary planting, erosion control etc.		Ongoing	Section 6.2.6
South Waste Rock Dump (SWRD)			
• Selective encapsulation of PAF waste rock with a low permeability seal followed by NAF material and topsoil.	Waste Rock Dumps	Current. Rehabilitation commenced with some sections planned to be re-disturbed for reclaim of NAF material. To be completed by -	Section 4 Section 6.2.1 (h)
• Original Comittment: Grading the final surface of the dump to blend in with the natural topography of the area, with an overall outer batter slope of 1:4 comprising 1:3 outer slopes and 15 to 20 m wide, step-back, reverse graded berms. • Revised Comittment: In order to provide material for TSF construction, the SWRD would be excavated to the natural surface elevation on the western side of the dump. The final			

Commitment	Relevant Domains / Areas	Timing	Section of RMP
embankments of the SWRD (i.e. where not excavated down to surface level and where these areas adjoin potentially acid forming sections of the dump) would include benches and batters with an overall outer batter slope of 1:4 (Vertical:Horizontal).		2035	
• Installation of rock lined drains and detention ponds to channel runoff safely to constructed outlet areas.			Section 4 Section 6.2.3 (b)
• Progressive rehabilitation of outer batters.			Section 4 Section 6.2.1 Section 6.2.3
SWRD Interaction with the Northern Tailings Storage Facility			
• A clay capping layer and rock armouring will be installed along the southern face of the South Waste Rock Dump to minimise the potential for tailings seepage into the SWRD. The clay layer would be keyed into the in-situ ground surface at the toe of the dump.	Waste Rock Dumps	Complete.	Section 6.2.1 (h)
Relocation of Waste Rock Material within Cadia East Subsidence Zone and Zone of Influence			
Part of the South Waste Rock Dump is in the area that would be affected by the predicted Cadia East zone of influence and subsidence zone. If left in its current location some of this material would fall into the subsidence zone once it reaches the surface. If this were to occur it would present a safety and rehabilitation issue along the edge where the dump and subsidence zone meet (i.e. rehabilitation equipment would not be able to safely operate in this area to stabilise and revegetate the dump batter) In order to manage this issue, Cadia would: • Reclaim some of the waste rock that occurs in the predicted subsidence zone and/or zone of influence. • Reclaim some of the adjoining material so that the residual north-east batter of the dump is at its final overall slope of 1:4. • No revegetation or decomissioning will be undertaken on areas within the Subisidence Zone of Influence as instability precludes access for monitoring and maintenance. • Some NAF waste rock may be left within the subsidence zone itself (where it would be allowed to fall into the void).	Waste Rock Dumps Pits / Voids	Current. 30 June 2031	Section 6.2.3 (c)

Commitment	Relevant Domains / Areas	Timing	Section of RMP
SWRD Water Management			
• The top surface of the South Waste Rock Dump would be designed with a slight dish shape that would generally drain towards the north. Rock lined channels would be installed along the northern edge of the top surface to provide a stable means for surface water runoff to drain from the top of the SWRD.	Waste Rock Dumps	Current & mostly complete. To be completed by 2035	Section 6.2.1 (h)
• On the batters of the dump, surface water runoff would flow perpendicularly down the slope to the toe of each batter where it would be re-directed by the 15 to 20 m wide reverse graded berms. The water would gradually flow short distances along the berms to rock lined channels which would be constructed at regular intervals down the faces of the batters. These channels would enable water from one berm to be channeled in a controlled manner down the face of the batter to the next berm and ultimately to the base of the dump.		Current and ongoing – rehabilitation commenced. To be completed by 2035	Section 6.2.1 (h)
• Rock lined channels would be used at the base of the dump to direct runoff into natural creek lines, the surface of the NTSF, or the Rodds Creek Water Holding Dam..		Current. To be completed by 2035	Section 6.2.1 (h)
• The existing sediment ponds and leachate collection ponds downstream of the dump would be retained until the revegetated surface of the dump is stable and the runoff water quality is acceptable.		Current. To be confirmed following rehabilitation and further assessment.	Section 6.2
• Original commitment: Construction of chains-of-ponds (wetlands) in the south west area to assist clean water drainage from the area and increase habitat and ecological function • Revised commitment: Conduct further trials into the efficacy of chains-of-ponds (wetlands) to assist clean water drainage from the area and increase habitat and ecological function		Ongoing - 2026	Section 6.2.3 (a) Section 9.2
SWRD Revegetation			
• Original commitment: The revegetation objective for the South Waste Rock Dump is to provide scattered trees and pasture on the dump surface, and to provide woodland on the batters.	Waste Rock Dumps	Current.	Section 6.2.5

Commitment	Relevant Domains / Areas	Timing	Section of RMP
• Revised commitment: The South Waste Rock Dump would be revegetated with native woodland plant species consistent with E. albens – E. melliodora – E. blakelyi – E. bridgesiana woodland communities (1a, 2a, 2b). Revegetation would utilise locally collected seed (where available).		Rehabilitation commenced. Some sections planned to be re-disturbed for reclaim of NAF material.	
• The woodland areas on the batters would be linked to other conservation areas in the Cadia Valley through the vegetation corridor program.		Current. To be completed by 30 June 2031	Section 4 Section 6.2.5
• Trials would be conducted by Cadia on native species, grass species and soil treatments suitable for use on the dump.		Current. Trials are ongoing.	Section 9.2
• Creation of additional habitat using cleared trees from areas and the installation of nesting boxes and salvaged hollows, targeting threatened and declining woodland species.		Current. Partially complete - To be completed by 30 June 2031	Section 6.2.4
• Consistent with the Cadia Environment Protection Licence (EPL5590), during operational and closure phases of the mine site, the SWRD will be utilised for the disposal of benign waste products such as general demolition, construction and building waste, contaminated soil, damaged equipment, waste concrete, rubber lined steel pipe, untreated timber, heavy vehicle tyres and geological wastes where there is no viable recycling alternative.		Current and ongoing.	Section 6.2.2 (b)
• Undertake additional rehabilitation works should performance indicators not be met, such as ripping, re-seeding, supplementary planting, erosion control etc.		Ongoing	Section 6.2.6
Tailing Storage Facilities (NTSF & STSF)			
• Drainage from the top surface of the tailings storage facilities down the batters would be managed via engineered structures. These structures could involve, but are not necessarily restricted to, concrete channels, rock gabions or rock lined channels. The structures would direct	Tailings Storage Area	Current. 2035.	Section 6.2.3 (c)

Commitment	Relevant Domains / Areas	Timing	Section of RMP
the runoff to sediment stilling dams, and possibly through a constructed wetland (if feasible and required to achieve appropriate water quality), prior to release.			
• The final surface of the tailing's storage facilities would be rehabilitated through the application of topsoil (approximately 20 to 30 cm deep) and/or other growth medium such as biosolids and would be direct seeded and/or planted with a mixture of locally occurring trees and shrubs for initial surface stabilisation.l		Current. 2038.	Section 6.2.3 (c) Section 6.2.5
• A layer of NAF waste rock may be used, if required, to line the decant area to allow access for machinery during rehabilitation. This would be assessed at the time of rehabilitation.		Current. 2032.	Section 6.2.3 (c)
• Extension to NTSF and STSF footprints and alternate embankment construction methodology to center line or downstream lifts. Following the completion of tailings deposition, outer slopes would be stabilised with the application of topsoil and direct seeded and/or planted with endemic tree and shrub species and grasses.		Current. 30 June 2031.	Section 6.2.3 (c)
• Revised Commitment: Since the approval for Modification 14, further investigations in support of the detailed engineering design for the NTSF and STSF have been undertaken which have identified the need for additional buttress footprint to accommodate future downstream and centreline raises. This results in a decrease in the overall batter slope angle of the TSF embankments.		Current. 2035.	Section 6.2.3 (c)
• Repair NTSF Embankment		Ongoing – pending geotechnical and design assessment.	Section 6.2.3 (c)
• Original Commitment: Drainage channels would be constructed on the surface of the tailings storage facilities to manage runoff and minimise ponding. Each channel would be seeded with a thick band (nominally 100 m wide) of woodland species with a final land use of conservation. These bands of vegetation are intended to provide long-term surface stabilisation to drainage lines, a 'filter' for surface water, shelter belts for grazed areas and a link to the regional vegetation corridor programme. The central part of each channel would be rock lined to minimise erosion potential. • Revised Commitment: The requirement for each channel to be seeded with a thick band (nominally 100 m wide) of woodland species with a final land use of conservation has been removed as the entire TSF surface final land use will be native ecosystem (open grassy woodland)		Commitment amended 2035	Section 4 Section 6.2.5

Commitment	Relevant Domains / Areas	Timing	Section of RMP
• Original commitment: The remainder of the surface of the tailing's storage facilities would be seeded with pasture species with a final land use of occasional/opportunistic and controlled grazing. • Revised commitment: the final land use of Tailings Storage Facilities has been modified from the Cadia East Environmental Assessment (pasture) to 'woodland' (conservation) following consultation and past research conducted that has demonstrated that there is potential for elevated levels of Molybdenum (Mo) in pasture species (Phalaris and Sub-Clovers) grown on tailings substrate (refer to Appendix C).		2038	Section 4 Section 6.2.5
• Original commitment: Construction of chains-of-ponds (wetlands) in the south west area to assist • Clean water drainage from the area and increase habitat and ecological function • Revised commitment: Conduct further trials into the efficacy of chains-of-ponds (wetlands) to assist clean water drainage from the area and increase habitat and ecological function		Ongoing - 2026	Section 6.2.3 (a) Section 9.2
• Original commitment: Undertake rehabilitation of woodland and native grassland communities (as per the outcomes of the trials) • Revised commitment: Revegetation using locally collected seed (where available) of similar vegetation community species including grasses and other native forbs and appropriate local native wetland plants. Vegetation communities to be established include: ○ E. albens – E.melliodora – E. blakelyi – E. bridgesiana woodland communities (1a, 2a, 2b)		Current. 30 June 2031. 2039	Section 6.2.5
• Creation of additional habitat using cleared trees from areas and the installation of nesting boxes and salvaged hollows, targeting threatened and declining woodland species.		Current. 2039.	Section 6.2.4
• Recover topsoil and clay prior to inundation by tailings.		Ongoing – topsoil and clay stripping has occurred for areas that have tailings deposited over them.	Section 6.2.1 (a)
• Respread native topsoil immediately onto new designated revegetation areas (where practicable).		Limited opportunities for progressive rehabilitation	Section 6.2.1 (b)
• Continue to undertake rehabilitation trials (scaled up version if possible). Understand any long term ore body geochemical changes that may alter / affect proven rehabilitation methods (proven as part of completed research).		Research trials are to commence in 2025	Section 9.2

Commitment	Relevant Domains / Areas	Timing	Section of RMP
• Create desired landform via selective placement of tailings.		Approximately 2 years prior to mine closure	To be included in next review of RMP
• Cadia will undertake further research towards optimising the design of rehabilitation at Cadia by addressing knowledge gaps and informing the refinement of rehabilitation methodologies.		Trials are ongoing	Section 9
• Investigation into TSF rehabilitation optimisation will be undertaken in 2025 and would involve the use of a Landform Evolution Model. The objective will be to optimise the final landform design and maximise the long-term stability and sustainability of the landform (CHPL, 2022a).		Current - Studies ongoing	Section 9.2
• Cadia has constructed an internal bund on the STSF. In the final stages of operation, the internal bund would be encapsulated by deposited tailings and would not form part of the final landform.		Current 30 June 2031	Section 6.2.3 (c)
• Upon conclusion of trials the RMP will include design of a surface capping system on the tailings surface which mitigates erosion, promotes drainage, and minimises surface water infiltration, including identifying the location of materials needed for capping and strategies to reduce dust emissions.		Current 30 June 2031	
• The final landform (i.e. surface of the TSF) following completion of the tailings deposition would be contoured to include topographic elevation changes to mimic natural drainage lines to manage runoff, minimise ponding and infiltration.		30 June 2031	
• Water management for the surface of the TSFs would comprise a series of low-gradient drainage lines to promote surface drainage towards the north-western corners of the TSFs and the permanent drainage structures which would be located at the embankments		Current 2038	
Ridgeway Subsidence Zone			
• The rehabilitation concept involves construction of a bund and fence around the void to restrict stock and human access. Fence to allow for animal escape from the zone. The subsidence zone would be partitioned from the remainder of the 'Tunbridge Wells' property and surrounded by planted native woodland to provide visual screening. • It is predicted that a water body would eventually form at the base of the Ridgeway subsidence zone and it would take approximately 150 years for a water body to reach equilibrium in the subsidence zone.	Pits / Voids	Current. 30 June 2031.	Section 6.2.1 (l)

Commitment	Relevant Domains / Areas	Timing	Section of RMP
Cadia East Subsidence Zone			
• Original Commitment: It is not proposed to clear the native vegetation communities from this area prior to subsidence occurring, although some native seed collection would be undertaken, and fauna habitat resources (such as tree hollows) would be salvaged where practicable for use within rehabilitation areas or other fauna habitat enhancement areas. • Revised Commitment: Native vegetation clearing is now conducted within the Cadia East subsidence zone to prevent fauna deaths, large trees entering the underground workings, and to facilitate the salvage of fauna habitat resources.	Pits / Voids	30 June 2031.	Section 6.2.1 (l)
• Stripping of soils from the cleared agricultural lands within the subsidence zone would be undertaken if the soils from these areas are suitable, and they are required for rehabilitation of the SWRD or other Project landforms.		Current. 30 June 2031.	Section 6.2.3 (c)
• After mining and mine dewatering cease the final void created by the Cadia East subsidence zone would be allowed to fill with water.		Current. 30 June 2031.	Section 6.2.1 (l)
• The subsidence zone and zone of influence would not be sufficiently stable to safely allow human or stock access, therefore a bund and fence would be erected around the zone of influence to restrict access. Fence to allow for animal escape from the zone. No rehabilitation will be undertaken within the subsidence zone of influence due to access restrictions on plant and equipment.		Current. 30 June 2031.	
• A native woodland screen would be planted around the fence to provide a visual barrier and delineation of the zone to assist in future land use planning. Where possible the native woodland screen would be used as a link in the vegetation corridor programme.		Current. 30 June 2031.	
Cadia Hill Pit / Tailings Storage Facility			
• A fence (with controlled entry points for water sampling access), bund and vegetation screen (native trees and shrubs) would be established around the open pit. The vegetation screen would provide a link as per the vegetation corridor program.	Pits / Voids	Current. 30 June 2031.	Section 6.2.3 (d)
• The pit will be filled with tailings to a level of 713m AHD (unconsolidated) and result in a water body forming over the TSF.		Current. 30 June 2031.	Section 6.2.3 (d)
• Continue to undertake studies to identify potential solutions that reduce exposure of tailings (including review of relevant case studies).		Current. 30 June 2031.	Section 9.2

Commitment	Relevant Domains / Areas	Timing	Section of RMP
Cadia Extended Pit			
• The waste rock in Cadia Extended would be re-profiled to create a stable final land surface and blend in with the natural topography of the area.	Pits / Voids	Current. 2032	Section 6.2.3 (b) Section 6.2.3 (c)
• The final surface would have maximum batter slopes of 1:3, plateau slopes of 1:100 and water management drains, bunds and sediment dams would be constructed. A low permeability cover would be installed to minimise infiltration into the waste rock.		Current. 2032	Section 6.2.3 (b) Section 6.2.3 (c)
• Original commitment: Following the application of 2 to 3 m of NAF material and topsoil (approximately 20 to 30 cm), the batters would be revegetated with native endemic species while improved pasture would be established on the plateau. • Revised commitment: Following the application of 2 to 3 m of NAF material and topsoil (approximately 20 to 30 cm), The final land use across the Cadia Extended Pit will be revegetated with native woodland plant species over the entire constructed landform (including on the plateaus).		Current. Partially complete - To be completed by 2032	Section 4 Section 6.2.5
• The Cadia Extended Pit would be revegetated with native woodland plant species consistent with *E. macrorhyncha – E. goniocalyx – E. polyanthemos woodland community* (3a, 3b).		Current. 2033	Section 4 Section 6.2.5
• Original commitment: Construction of chains-of-ponds (wetlands) in the south west area to assist clean water drainage from the area and increase habitat and ecological function • Revised commitment: Conduct further trials into the efficacy of chains-of-ponds (wetlands) to assist clean water drainage from the area and increase habitat and ecological function		Ongoing - 2026	Section 6.2.3 (a) Section 9.2
• Creation of additional habitat using cleared trees from areas and the installation of nesting boxes and salvaged hollows, targeting threatened and declining woodland species.		Current. 2033	Section 6.2.4
Infrastructure			
• Dismantle and remove fixed equipment and infrastructure for removal from site and re-use at another location, if possible, or recycling. • Non-salvageable/non-recyclable and non-contaminated surface infrastructure would potentially be disposed of in the underground workings, or at suitable off-site disposal areas. • Once all the equipment and infrastructure components have been removed from an area it would be topsoiled, deep ripped and seeded	Infrastructure	All current. 2035	Section 6.2.2 (b)

Commitment	Relevant Domains / Areas	Timing	Section of RMP
• Land contamination assessments would be conducted as required and contaminated soil would be remediated in accordance with the relevant guidelines. • Some concrete hardstands, site access roads, sheds, buildings and sediment dams may be retained for alternate post-mining uses. • Electricity transmission infrastructure would be retained for future use by landholders unless it is no longer required, in which case it would be decommissioned and removed.			
Declines, Portals and Underground workings			
• At the completion of mining, all recyclable and re-usable underground infrastructures would be removed, and the Ridgeway and Cadia East mine dewatering program would cease operation. • Portals would be sealed with a concrete plug, the box cut backfilled and shaped to be consistent with natural topography and seeded. Bunding would also be constructed around the portals. • Surface ventilation infrastructure (e.g. fans, vents and electrical substations [except the concrete collars]) would be removed. • The sealing/capping procedure for ventilation rises would be determined in consultation with the relevant regulatory authorities and other stakeholders, but would include appropriate geotechnical investigations, design work, capping and topsoil placement over the cap with the area revegetated • Where elements of mine infrastructure occur within the subsidence zone and zone of influence, there is a chance that ground conditions would not be sufficiently stable to safely allow access to decomission these at the end of their operational life. These elements will be retained and allowed to fall into the final void.	Underground Mining Area	All current. 2032	Section 6.2.2.(f)
Roads			
• Some of the site roads would be retained for use by landholders following the cessation of mining, other roads would be ripped, topsoiled and revegetated	Infrastructure	Current. 2035	Section 6.2.2 (c)
Water Management Infrastructure			
• In consultation with the regulatory authorities and the community, and considering future regional water infrastructure needs, site water dams (i.e. Rodds Creek Water Holding Dam, Cadiangullong Dam), weirs (i.e. Flyers Creek and Cadia Creek), the Belubula River water pipeline, Blayney concentrate/return water pipelines and the Orange effluent pipeline may be retained for future use.	Waste Management Area	All current. 30 June 2031.	Section 6.2.2 (c)

Commitment	Relevant Domains / Areas	Timing	Section of RMP
• If a future use of the Belubula River water pipeline, Blayney concentrate/return water pipeline and the Orange effluent pipeline cannot be established the concentrate pipeline would be flushed clean, all pipes left in place, capped and surface infrastructure removed. • Sediment dams would remain pending long-term acceptable water quality and may be kept for stock water if suitable. • The site runoff pond and the process water pond would be cleaned out if necessary and temporary fencing would be installed if required. Once water quality meets regulatory discharge criteria through the process of ongoing water quality monitoring, the dams would be emptied, high-density polyethylene (HDPE) liners removed, contaminated soils removed, clean fill placed, topsoiled and seeded to pasture species.			
• Water management concepts for the final landform would be designed in accordance with the ANCOLD guidelines and described in the RMP.		Current 30 June 2031	Section 6.2.3 (a)
• The conceptual final landform includes the decomissiong of Rodds Creek Dam, a number of stilling basins to manage run-off from the rehabilitated landforms, and water management structures to divert up-catchment water around the STSF. The final design of these would be incorporated into future RMPs.		Current 2037	Section 5
Heritage Sites			

• The long-term future of heritage sites would be decided following consultation with regulatory authorities and the community. Options may include:
  ○ Transfer of sites to the care and control of heritage conservation bodies such as NSW Department of Environment and Climate Change (DECC), The National Trust, Department of Planning – Heritage, etc.
  ○ Care and maintenance agreement with local government (Cabonne or Blayney Shire Councils), or specific interest groups.
	Heritage	All current.
		30 June 2031.
			Section 6.2.1 (m)

Cadia Dewatering Facility (Note: Outside Mining Leases)			
• Decommissioning of the Cadia Dewatering Facility will involve the removal of tanks, pumps, plant and infrastructure. • Concentrate and dewatering lines would be flushed with clean water, capped and left in-situ. However, consideration would first be given to their possible use within a regional water management scheme. • Following the removal of infrastructure, attempts may be made to sell the site to another industrial user who can make use of the concrete pad and shed. If such a user is not identified,	Infrastructure	All current. 2034	N/A (Outside Mining leases)

Commitment	Relevant Domains / Areas	Timing	Section of RMP
the shed would be demolished, and the concrete pad left in place. The decision would be made in consultation with the regulatory authorities and stakeholders. • A final land contamination assessment would be undertaken, and amelioration measures implemented if required			

2.1.3 Mine Lease Conditions

The following mine lease conditions have been extracted from Schedule 8A of the NSW Mining Regulation 2016. Conditions presented below relate to the content of the Rehabilitation Management Plan. Other standard mining lease conditions can be accessed via the NSW Legislation web site (https://legislation.nsw.gov.au/view/html/inforce/current/sl-2016-0498#sch.8A)

Cadia Mining Leases			
Condition	**Relevant Domains / Areas**	**Timing**	**Section of RMP**
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	Ongoing	This document
5 Rehabilitation to occur as soon as reasonably practicable after disturbance The holder of a mining lease must rehabilitate land and water in the mining area that is disturbed by activities under the mining lease as soon as reasonably practicable after the disturbance occurs.	All	Refer to life of mine schedule and Forward Plan	Section 6.1
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.	All	Refer to life of mine schedule	Section 2.4, 4 and 6.
(2) The holder of the mining lease must ensure any planning approval has been obtained that is necessary to enable the holder to comply with subclause (1).	All	Prior to undertaking works	Section 2.1
(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.	All	Prior to the development of this RMP	Section 3
(4) In this clause— ***final land use*** for the mining area means the final landform and land uses to be achieved for the mining area—	All	-	Section 2 and 4
(a) as set out in the rehabilitation objectives statement and rehabilitation completion criteria statement, and	All	-	Section 4
(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	All	-	Section 2.1

Cadia Mining Leases			
Condition	**Relevant Domains / Areas**	**Timing**	**Section of RMP**
(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—	All	Prior to the development of this RMP	Section 3
(i) the rehabilitation objectives,	All		
(ii) the rehabilitation completion criteria,	All		
(iii) for large mines—the final land use as spatially depicted in the final landform and rehabilitation plan, and	All		
(b) identifies the measures that need to be implemented to eliminate, minimise or mitigate the risks.	All		
(2) The holder of the mining lease must implement the measures identified.	All		
(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.	All		

Cadia Mining Leases			
Condition	**Relevant Domains / Areas**	**Timing**	**Section of RMP**
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	-	This document prepared in accordance with the Form and Way
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—	All	-	This Plan
(a) a description of how the holder proposes to manage all aspects of the rehabilitation of the mining area,	All	-	Section 6
(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,	All	-	Section 2.1.3 Section 6
(c) a summary of rehabilitation risk assessments conducted by the holder,	All	-	Section 3
(d) the risk control measures identified in the rehabilitation risk assessments,	All	-	Section 3
(e) the rehabilitation outcome documents for the mining lease,	All	-	Section 4
(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.	All	-	Section 8.3
(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.	All	-	Section 4

Cadia Mining Leases			
Condition	**Relevant Domains / Areas**	**Timing**	**Section of RMP**
(3) A rehabilitation management plan is not required to be given to the Secretary for approval.	Note		
(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.	All	As per Forward Plan & life of Mine Schedule	Refer to Forward Program
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.	All	When triggered	Section 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.	All	Prior to the development of this RMP	Section 11

Cadia Mining Leases			
Condition	**Relevant Domains / Areas**	**Timing**	**Section of RMP**
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.	All	Prior to the development / revision of this RMP	Section 4
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	All	When triggered	Section 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.	All	When triggered	This document

Cadia Mining Leases			
Condition	**Relevant Domains / Areas**	**Timing**	**Section of RMP**
(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			

Cadia Mining Leases			
Condition	**Relevant Domains / Areas**	**Timing**	**Section of RMP**
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.	All	When triggered	Section 11
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.	All	Noted	Noted
18 Report on non-compliance	All	Noted	Noted

Cadia Mining Leases			
Condition	**Relevant Domains / Areas**	**Timing**	**Section of RMP**
(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.			
19 Nominated contact person (1) The holder of a mining lease must nominate a natural person to be the contact person with whom the Secretary can communicate in relation to the mining lease for the purposes of the Act. **Note**— The Act, section 383 sets out the ways in which notices or other documents may be issued or given to, or served on, a person for the purposes of the Act. (2) The holder of the mining lease must give written notice to the Secretary of— (a) the full name and contact details of the nominated person—within 28 days after the date on which the standard conditions apply to the mining lease under clause 31A of this Regulation, and (b) any change in nomination or in the nominated person's contact details—within 28 days after the change occurs. (3) The holder of the mining lease must ensure that the contact details for the nominated person include the person's phone number and postal and email addresses.	All	Noted	Noted

2.1.4 Other Applicable Legal Requirements

The following Acts and associated regulations may be applicable to post mining land use and rehabilitation at Cadia:

- *Protection of the Environment Operations Act 1997 (and associated regulations)*
- *Water Management Act 2000*
- *Water Act 1912*
- *Heritage Act 1997*
- *NSW Biodiversity Conservation Act 2016 (and associated regulations)*
- *NSW Fisheries Management Act 1994*
- *NSW Local Land Services Act 2013 (and associated regulations)*
- *NSW Biosecurity Act 2015*
- *Contaminated Lands Management Act 1997*
- *Rural Fires Act 1997*

2.2 Final Land Use Options Assessment

The *Form and Way: Rehabilitation management plan for large mines*, published by the NSW RR (NSW RR, 2025) requires the completion of a final land use options assessment where the development consent does not define the final land use.

For Cadia's mining landforms, the majority of final land uses are defined in the Cadia East Environmental Assessment (summarised in **Table 6**). Adherence to the Cadia East Environmental Assessment is a condition of PA 06_0295 (Schedule 2, Condition 2).

Cadia has implemented a number of minor changes to final land uses (to that proposed in the Cadia East Environmental Assessment) to increase the stability and sustainability of post-closure landforms. These changes follow suggestions from the 'Expert Panel' that was engaged to advise on the Rehabilitation Strategy required by Schedule 3, Condition 36 of the Cadia East Project Approval (note: the 'Expert Panel' component of this condition is no longer required). The intent of the changes proposed by the expert panel were to:

- Reduce areas with a final land use of agriculture and grazing on mining landforms where a risk of erosion / degradation of the final landform may be present.
- Increase revegetation to woodland communities and conservation to replace the significantly depleted White Box, Yellow Box, Blakely's Red Gum - Critically Endangered Ecological Community.

Further information regarding the "Expert Panel" process is included in **Section 4.2**. The changes primarily relate to eliminating grazing from TSF batters due to the risk of erosion and damage to capping materials, as referenced in **Section 6.2.1(h).**

Table 6 Final Land Use Changes

Landform	Mining Domain	Final Land Use (As stated in the Cadia East Environmental Assessment)	Final Land Use (Updated)
NWRD	Overburden emplacement area	Native Ecosystem (woodland / conservation)	No Change

SWRD	Overburden emplacement area	Agriculture (Grazing) Scattered trees and pasture on the plateau. Native Ecosystem. (Woodland on the batters. Conservation)	Woodland/conservation extended to be included on SWRD plateaus.
NTSF and STSF	Tailings Storage Facility	Embankment: Endemic tree and shrub species and grasses / conservation. TSF Surface: Native Ecosystem. Woodland / conservation along drainage channels. Agriculture and grazing other areas.	Embankment: grasses only / conservation (no grazing). TSF Surface: Native Ecosystem (Woodland/Conservation) all areas
Ridgeway and Cadia East Subsidence Zones	Underground Mining Area	Exclusion / creation of a water body. Native Ecosystem. Native woodland screen around perimeter (Conservation)	No change
(Cadia Hill) PTSF	Tailings Storage Facility; Open Cut Void	Exclusion / creation of a water body (above deposited tailings (Mod 13)	No change
Cadia Extended Pit	Overburden Emplacement Area; Infrastructure; Open Cut Void	Backfilled (complete). Introduced pasture on the plateau (grazing) Woodland on the batters. (Conservation)	Native Ecosystem. Woodland/conservation on Plateau.
Infrastructure	Infrastructure	Pasture / scattered paddock trees (Agriculture / grazing)	No change Potential for future industrial use of the site (to be assessed closer to closure)
Declines, Portals and Underground workings	Underground Mining Area	Sealing of portals and capping of vent raises. Topsoil placement over the cap with the area revegetated with pasture species. Agriculture / grazing	No change
Roads	Infrastructure	Some of the site roads would be retained for use by landholders following the cessation of mining, other roads would be ripped, topsoiled and sown to pasture or woodland species. Agriculture / grazing	No change
Dams	Water Storage Area	Future regional water infrastructure Process water pond. Filled, topsoiled and seeded to pasture species. Agriculture / grazing	No change Retained – post closure (excluding Rodds Creek Dam – see below).
Heritage Sites	Other (Heritage)	Heritage / conservation	No change
Rodds Creek Dam	Water Storage Area	Future regional water infrastructure	Backfilled, topsoiled and revegetated.

2.3 Final Land Use Statement

The following overall rehabilitation goal has been derived from the Cadia East Environmental Assessment, Cadia Rehabilitation Strategy (Newmont 2025a) and the Cadia Biodiversity Management Plan (Newmont 2025b).

Proposed Final Land Use Statement

The dominant final land use will be native ecosystem (woodland and grassland) with smaller areas of agriculture (grazing), voids, water management, water storage and heritage (see **Figure 5**, Section 5.1). The final landform will be generally consistent with the surrounding topography, to the degree practical and approved (see **Figure 6**, Section 5.1).

Specific future post-mining land uses include:

- Safe, stable, sustainable and productive landforms that blend in with the natural topography of the Cadiangullong Valley area.
- No future or residual ongoing liability from the mine site (e.g. from soil or water contamination) for Cadia, future landowners or the wider community.
- Agriculture (grazing): High quality agriculture (grazing) in areas deemed to be sustainable and low risk of erosion, degradation and damage. Similar species composition and carrying capacity to surrounding areas.
- Native Ecosystem - Woodland (conservation): Increasing the amount of conserved woodland in the district for future flora and fauna protection. Replacing/replicating Critically Endangered Ecological Communities where applicable, namely the White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in select areas. Similar vegetation types/composition to surrounding/local remnant vegetation.
- Those that allow for the future needs of the community through retaining key infrastructure where appropriate (pending future negotiations with regulatory bodies / community). Considerations may include regional water reticulation network, future industrial use of the site, landfill (within voids), roads, power assets etc.
- Designated heritage areas to conserve regionally significant heritage buildings and relics.

2.4 Final Land Use and Mining Domains

2.4.1 Final Land Use Domains

Table 7 identifies the final land use domains for Cadia. Selected domains are consistent with PA 06_0295 and associated documents including the Cadia East Environmental Assessment (including Section 2.2 above) (CHPL 2009), Rehabilitation Strategy (Newmont 2025a), and Biodiversity Management Plan (Newmont 2025b).

These domains are shown in **Figure 5** and **Figure 6**.

Table 7 Final Land Use Domains

Final Land Use Domains		
Code	**Domain**	**Definition**
A	Native Ecosystem	Woodland community - conservation
B	Agricultural - Grazing	Perennial/native pasture - grazing
C	Agricultural – Cropping	None on site
D	Rehabilitation Biodiversity Offset Area	None on site
E	Industrial	None on site

Final Land Use Domains		
Code	**Domain**	**Definition**
F	Water Management Areas	Constructed wetlands
G	Water Storage Areas	Dams
H	Heritage Areas	Heritage precincts
I	Infrastructure	Infrastructure to be retained to support future land uses
J	Final Void	Subsidence zones, PTSF

2.4.2 Mining Domains

Table 8 identifies the mining domains that represent the current mining landforms and features at Cadia.

Table 8 Mining Domains

Mining Domains		
Code	**Domain**	**Definition**
1	Infrastructure Area	Administration, workshops, roads, pumps, pipes, laydown yards etc.
2	Tailings Storage Facility	NTSF, STSF, PTSF
3	Water Management Area	Water storage dams, sediment dams, creek diversions etc
4	Overburden Emplacement Area	NWRD, SWRD, Cadia Extended open cut pit.
5	Active Mining Area (Open Cut Void)	Cadia Hill open cut pit, Cadia Extended open cut pit.
6	Underground Mining Area	Ridgeway and Cadia East surface disturbance associated with underground mining, including subsidence zones, declines, portals and vents.
7	Beneficiation Facility	Ore processing facilities
8	Other	Heritage

3 PART 3 – REHABILITATION RISK ASSESSMENT

Cadia conducted a rehabilitation risk assessment (RRA) workshop on 16 October 2025 which included subject matter experts (SMEs) from the following roles at Cadia (and externally):

- Lead, Environment
- Team Lead, Environment
- Specialist, Closure
- Superintendent Environment and Approvals (CITP)
- Advisor, Environment
- Superintendent, Tailings
- Supervisor, Mining Engineer
- Supervisor, Process Operations
- Engineer, Planning
- Principal Closure Practitioner (Mine Earth)

The RRA was conducted meet the requirements of the standard conditions of mining leases set out in Clause 7 of Schedule 8A of the Mining Regulation.

Table 9 provides a summary of risks identified during the workshop and a summary of how each identified risk has been addressed in this management plan and incorporated into rehabilitation practices. The risks listed are considered to be the key risks with respect to their ability to impact the on-ground performance of rehabilitation on site.

Future RRAs will be completed in accordance with Clause 7 of Schedule 8A of the Mining Regulation or every two years.

Table 9 Rehabilitation Risk Assessment Summary

Key Risk	Controls	RMP Section or Other Management Plan
Insufficient funding for prioritisation of rehabilitation activities resulting in statutory approval requirements not being satisfied.	Mine closure plan. Newmont Closure Cost Estimate Rehabilitation Cost Estimate Newmont Closure and Reclamation Global Standard	Section 11 Section 2

Key Risk	Controls	RMP Section or Other Management Plan
Biological resource salvage and maintenance through clearing, salvage and handling practices not managed and therefore there is not adequate material available for final rehabilitation works.	Maximisation of topsoil recovery during active mining phase. Survey record of topsoil locations and volumes with annual reconciliation. Annual soil sampling and assessment of rehabilitation areas to assess fertility/amelioration requirements.	Section 6.2.1 Section 6.2.4 Biodiversity Management Plan 710-005-EN-PLA-0025

Key Risk	Controls	RMP Section or Other Management Plan
Clearing in adverse seasonal and weather conditions when salvaging biological resources	Local provenance seed collection program (implemented). Supplementary seed supplier engaged (implemented).	Section 6.2.5 Biodiversity Management Plan 710-005-EN-PLA-0025

Key Risk	Controls	RMP Section or Other Management Plan
Adverse geochemical/chemical composition of materials such as overburden, interburden, processing wastes, subsoils and topsoils	Waste geochemical assessments from EA and EIS. Assessment and segregation of PAF and NAF materials. Annual waste placement reconciliation (survey) of waste sources and placement locations. Cover design model for PAF encapsulation. ITP during cover installation. Leachate capture and reuse during active mining phase. Cover design performance monitoring. All waste rock is treated as PAF and deposited in the 'Pink' (PAF) dump. Waste rock management plan.	Section 6.2.1 Section 6.2.3 Waste Rock (Including Metalliferous Drainage) Management Plan 710-005-EN-PLA-0017
Containment of tailings and reject materials is not adequate and results in seepage / leakage of material to surrounding environment (not contained onsite)	Waste geochemical assessments from EA and EIS. Results from Tailings revegetation trial. Monthly tailings assessment for acid generation conducted. Deposition strategy for the Tailings Facility. Surface Water Management System. Design and control of the tailings facility and supporting water management structures. Peer review of tailings design. Responsible tailings engineer and Engineer of Record. Wetland Study (to capture and polish surface water flows). QA / QC during construction. Seepage quality monitoring.	Section 6.2.1 Section 6.2.3 Dam Safety Management System 710-000-SA-PLA-0027 Waste Rock (Including Metalliferous Drainage) Management Plan 710-005-EN-PLA-0017 Water Management Plan 710-005-EN-PLA-004

Key Risk	Controls	RMP Section or Other Management Plan
Adverse surface water quality and quantity (not in accordance with approval requirements) released from mine-impacted landform to receiving environment.	Existing sediment dams and infrastructure retained, maintained and operational throughout rehabilitation phases. Review / monitoring of surface water infrastructure by site personnel on a regular basis during shifts. Waste rock dump cover system. Active mining (established water quality monitoring networks, onsite water network).	Section 6.2.1 Water Management Plan 710-005-EN-PLA-004
Seepage of AMD from waste rock dumps intercepting groundwater system or being discharged offsite.	South Waste Rock Dump leachate pond. Groundwater water quality monitoring and Reporting (during active mining and post closure). Site Groundwater Model updated on frequent basis (every three years). As Built data obtained for 2013 rehab works (South Waste Rock Dump). Dump design including cover system.	Section 6.2.1 Section 6.2.3 Water Management Plan 710-005-EN-PLA-004 Waste Rock (Including Metalliferous Drainage) Management Plan 710-005-EN-PLA-0017
Impacts on heritage (Cultural / historic) items resulting in statutory requirements not being satisfied. *Context: Includes management of heritage sites (SRH779 Cornish Engine house and Chimney / historic landscapes at Ridgeway).*	Protection, maintenance, repair and interpretation during active mining phase. Existing protocols for the identification and protection of heritage items continue into all rehabilitation phases. Historic Heritage Management Plan. Aboriginal Cultural Heritage Management Plan.	Section 6.2.1 Section 6.2.2 Section 10 Aboriginal Cultural Heritage Management Plan 710-005-EN-PLA-007 Historic Heritage Management Plan 710-005-EN-PLA-0013

Key Risk	Controls	RMP Section or Other Management Plan
Unstable landform due to erosion and/or mass movement	Monitoring and modelling of NWRD and SWRD covers. Landform evolution modelling (LEM) for mine landforms (NTSF, STSF, SWRD and NWRD). Appropriately qualified engineer to be utilised to design landforms. Established sediment dam network - to be retained post closure. Drainage controls (drop structures etc). Hydrology modelling of specific structures completed in 2023. Perennial vegetation cover / progressive rehabilitation. Drainage design for SWRD and NWRD.	Section 6.2.1 Section 6.2.3 Stockpiles and Waste Dumps Design Standard 710-000-GE-0010
Geotechnical failure of Waste Rock Dump landforms, slumping, loss of integrity leading to slope and rehabilitation failure resulting in the inability to create final landforms and achieve final land uses.	QA and QC and As Built Design. Drop structures (drainage control). Competent material (not prone to failure / degradation). Landform evolution modelling.	Section 6.2.3 Stockpiles and Waste Dumps Design Standard 710-000-GE-0010
Exposure or release of geochemical and/or geotechnically adverse materials from TSF *(Does not consider complete Tailings Dam Failure as this is covered by separate risk assessments).*	Trial TSF Revegetation Project - demonstrating closure cover. Drainage design and leachate collection systems. Tailings Dam design and surveillance reports. Cover performance monitoring. Dam safety/ANCOLD requirements. GISTM governance and requirements.	Section 6.2.1 Section 6.2.3 Dam Safety Management System 710-000-SA-PLA-0027
Tailings leakage into Cadiangullong Creek from Pit TSF from 694m AHD (water level)	Geotechnical study to identify options to mitigate seepage risk and develop TARP for approaching 694m AHD water level. Weekly water level monitoring undertaken in Pit TSF. Bathymetric survey completed every 6 months. Groundwater monitoring in the surrounding bore network.	Section 6.2.1

Key Risk	Controls	RMP Section or Other Management Plan
Insufficient NAF Waste rock for construction of waste rock dump cover designs, TSF decant capping and other landform design requirements resulting in the inability to meet completion criteria / achieve final land uses.	Annual NAF reconciliation and projection. Borrow pits or import material. Alternative cover system assessment.	Section 6.2.1 Section 6.2.3 Annual Rehabilitation Report and Forward Program
Lack of availability of suitable materials for encapsulation or capping of adverse materials (clay specific) resulting in need to import capping material.	Maximise clay recovery (clay harvested from tailings dam inundation area) Survey record of clay storage locations, source locations and volumes. Borrow pits or import material. Alternative cover system assessment.	Section 6.2.1
Final landform unsuitable for final land use (e.g. large rocks present affecting cultivation, settlement and surface subsidence leading to extended ponding). *Context: no land use proposed for cropping. Native ecosystem proposed across the site.*	Final landuse options assessment. Rehabilitation QAQC	Section 2.2 Section 7
Physical and structural properties of substrate not suitable for post mining land use / vegetation community	Annual (representative) soil sampling and assessment of rehabilitation areas and identification of fertility / ameliorant requirements.	Section 6.2.1 Biodiversity Management Plan 710-005-EN-PLA-0025
Subsoil and topsoil deficit for rehabilitation activities resulting in approval requirements not being met.	Maximisation of topsoil recovery during active mining phase. Survey record of topsoil locations and annual reconciliation. Annual representative soil sampling and assessment of rehabilitation areas and identification of fertility / ameliorant requirements.	Section 6.2.1 Section 6.2.4 Biodiversity Management Plan 710-005-EN-PLA-0025 Annual Rehabilitation Report and Forward Program

Key Risk	Controls	RMP Section or Other Management Plan
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).	Maximisation of topsoil recovery during active mining phase. Survey record of topsoil locations, includes locations and volumes. Annual (representative) soil sampling and assessment of rehabilitation areas and identification of fertility / ameliorant requirements.	Section 6.2.1 Section 6.2.4 Biodiversity Management Plan 710-005-EN-PLA-0025
Lack of availability and quality of target seed resources	Local Indigenous species and seed collection program, purchase additional seed where required. Seed inventory established and seed viability testing undertaken.	Section 6.2.1 Section 6.2.3 Section 6.2.5
Damage to seed / tubestock through revegetation process resulting in inability to achieve approval requirements for target vegetation communities.	Local endemic species and seed collection program. Tubestock planting undertaken in winter where possible. Tubestock planted with tree guards. Utilisation of experienced resources (contractors and site personnel)	Section 6.2.5
Poor quality tubestock / tubestock availability resulting in inability to achieve approval requirements for target vegetation communities.	Rehabilitation Management Plan. Rehabilitation QAQC Weed presence included in annual monitoring and inspection programs including assessment of analogue sites.	Section 6.2.5 Section 7
Weed infestation of rehabilitated areas	Weed presence included in annual monitoring and inspection programs including assessment of analogue sites. Ongoing weed management program including spraying.	Section 6.2.1 Section 6.2.4 Section 8.2 Biodiversity Management Plan 710-005-EN-PLA-0025

Key Risk	Controls	RMP Section or Other Management Plan
Inappropriate revegetation species mixes	Local provenance seed collection program and align with project approval requirements.	Section 6.2.5
Weather and climatic influences (e.g. drought; intense rainfall events; bushfire and climate change) resulting in inability to achieve approval requirements for target vegetation communities	Local native endemic species. Works Based on Seasonal Conditions. Flexibility to delay or defer rehabilitation works based on unsuitable seasonal conditions.	Section 8.1 Section 10
Habitat structures not available for colonisation or use.	Habitat salvage and relocation program (from clearing areas to rehabilitated landforms). Installation of nest box / artificial structures. Habitat diversity / complexity included in annual monitoring programs including assessment of analogue sites.	Section 6.2.1 Section 6.2.4 Biodiversity Management Plan 710-005-EN-PLA-0025
Damage to rehabilitation (e.g. fauna, domestic stock, vandalism, vehicular interactions, bushfire, insects and plant disease).	Bushfire Management Plan (BMP). Weed and pest management program. Biosecurity Program for rehabilitation and offset sites. Tubestock planted with tree guards. Maintenance of retained access roads and tracks (also firebreaks). Close proximity of RFS resources including aerial support from Spring Hill Airport.	Section 6.2.1 Section 6.2.4
Damage to rehabilitation resulting from changes to operations.	Operations Plan / integration with RMP and Forward Program Environmental Impact Permit (EIP)	Section 6.2.1 Section 10 Forward Program
Insufficient establishment of target species and limited species diversity.	Annual independent monitoring of rehabilitation and analogue sites.	Section 6.2.5 Section 10

Key Risk	Controls	RMP Section or Other Management Plan
Lack of infrastructure to support intended final land use (e.g. dams, fences, watering facilities).	RMP and existing final land use defines agricultural areas on site.	Section 6.2.2 Section 6.2.3
Process water pond / site runoff pond contains contaminated materials resulting in an inability to achieve final land use.	Sediment removed and placed within PAF cell of south waste rock dump. Pond HDPE liner removed and placed in underground workings for disposal. Ponds retained for sediment control (during landform & growth medium. establishment phases and for future land use as farm dams / aquatic habitat.	Section 6.2.3
Re-disturbance of existing rehabilitation areas	Long term mine planning process.	Section 6.1 Forward Program
Insufficient material available at closure for the construction of final landform features which may include vegetation screens, bunds around retained voids.	Detailed Mine Closure Planning will inform material balance for final landform establishment. Annualised NAF reconciliation and projection.	Section 6.2.1 Section 6.2.2

4 PART 4 - REHABILITATION OBJECTIVES AND REHABILITATION COMPLETION CRITERIA

Cadia has prepared *Rehabilitation Objectives* (ROBJs) which were approved by the NSW RR on 6 October 2023. The approved ROBJs and proposed Rehabilitation Completion Criteria are discussed in **Section 4.1**.

4.1 Rehabilitation Objectives and Rehabilitation Completion Criteria

The overall rehabilitation goal for Cadia is to generate enduring land value. Land value is seen to be a function of ecological value (e.g. biological diversity and other environmental values) and agricultural value (i.e. the ability to produce agricultural goods). This goal has been considered in the generation of the approved objectives, targets and approach to rehabilitation described in this document.

Considering the above, rehabilitation activities at Cadia aim to generate safe and sustainable landforms at the mine site, Cadia-owned land and the region as a whole, by rehabilitating mine disturbed lands to:

- Add value to the current vegetation corridor programme (ecological value);
- Allow for the future land use of grazing, where appropriate and sustainable (agricultural value); and
- Retain areas that may be important for future industry and infrastructure needs.

Cadia aims to provide a balanced rehabilitation outcome, recognising the alternative land uses that exist in the region and aims to establish a combination of grazing land and indigenous woodland on final landforms. Woodland areas would be created to contribute to the local and regional habitat corridors.

Table 10 shows the approved ROBJs and proposed rehabilitation completion criteria as they apply to Cadia's mining leases. The ROBJs are consistent with PA 06_0295 and Environmental Assessment, with minor amendments as noted in **Section 2.2.** It is noted that following the approval of Mod 15, Rodd's Creek Dam will be drained, backfilled and returned to a Native Ecosystem final land use domain as part of the final landform. Rodd's Creek Dam was previously identified for retention as a water storage in the final landform. **Table 10** has been updated to reflect this.

The approved ROBJs statement as provided by the NSW RR is attached in **Appendix A**.

Monitoring, inspection and evidence compilation will be completed to track the progress of rehabilitation, and ultimately to demonstrate whether rehabilitation has achieved the completion criteria set for each final land use domain. Results of the rehabilitation monitoring will be provided through progress reports, annual reporting requirements, and either a final report or relinquishment report to the NSW RR.

Suitable analogue sites have been developed (refer to **Section 8.1**) to define proposed rehabilitation completion criteria. Analogue sites have been established in areas that represent the values and characteristics of the final land use.

Table 10 Rehabilitation and Proposed Completion Criteria

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Cadia Extended – carpark and materials stockpiles Native ecosystem	A1	Removal of infrastructure	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.	1. Removal of all services (power, water, communications) that have been connected on the site as part of the operation. 2. Where applicable, heritage obligations (e.g. development consent under the Environmental Planning and Assessment Act 1979, approvals under the Heritage Act 1977, etc.) have been met. 3. Removal of all plant, equipment and associated infrastructure not required for final land use. 4. Removal of all footings or removal to a certain depth, to be determined. 5. Removal of all water management infrastructure (including pumps, pipes and power). 6. Where applicable, all drill cores have been removed and taken either to an authorised storage or a disposal location. 7. Surveying and sealing of all drill holes and boreholes in accordance with departmental guidelines and relevant standards.	1. All utility infrastructure removed. 2. Permits and approval documents issued. All archival reports required are complete and submitted. 3. Removal of all plant, equipment and associated infrastructure not required for final land use. 4. Footings removed and or removed to specified depths (to be determined) to avoid exposure pathways to subsequent final land use. 5. All water management infrastructure not required for final land use has been removed. 6. All infrastructure not required for final landuse removed. 7. Cores removed and relocated. 8. Sealing completed and verified.	1.Statement provided, utility service disconnection record / notification. 2.Copy of any relevant approval documentation and archival reports/records. 3. As-constructed final landform plan, photos, decommissioning reports. 4.Surveyed and marked on the as-constructed final landform plan. 5.Statement provided and before/after photos. 6.Statement provided, receipt records from storage or disposal location. 7.Engineering report/statement, plug and abandonment log, photos, as-constructed drawings, records of fill materials and concrete plugs, filling methods. 8.Engineering report/statement, plug and abandonment log, photos, as-constructed drawings, records of fill materials and concrete plugs, filling methods
NTSF & STSF – surface and embankments Native ecosystem	A2					
Cadia Extended – backfilled pit Native ecosystem	A4					
NWRD & SWRD – landform Native ecosystem						
Infrastructure to be removed – Cadia and Ridgeway access controls, workshops, roads, pumps Agricultural - grazing	B1					
Process water pond, site runoff pond Water storage areas	G3					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Cadia Hill Pit TSF (PTSF) Final void	J2					
Water management area Native Ecosystem	A3					
Active mining area (open cut void) Native Ecosystem	A5					
Beneficiation facility Native Ecosystem	A7					
Infrastructure area Water management area	F1					
NTSF & STSF – drainage structures & wetlands Water management area	F3					
Cadia Extended – creek diversion Water management area						
NWRD & SWRD Rock-lined drains	F4					
Cadia Hill Pit TSF – area above deposition level to the top of the void Final void	J5					
Ridgeway and Cadia East Subsidence Zones	J6					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Final Void						
Cadia Extended – carpark and materials stockpiles Native Ecosystem	A1	Retention of infrastructure	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community. All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)	1. Infrastructure is in a condition (e.g. structural, electrical, other hazards) that is suitable for the intended final land use. 2. If any underground pipelines or other infrastructure are to remain in situ, they do not pose a hazard for the intended final land use. 3. Heritage obligations as required under the Environmental Planning and Assessment Act 1979, Heritage Act 1977, etc. have been met (e.g. archival recording, building retention and restoration). 4. The structural integrity of the infrastructure is suitable and safe for use as part of the intended final land use.	1. Formal acceptance from the subsequent landowner that infrastructure is in a condition that is suitable for the intended final land use in accordance with formal agreement. 2. The location of the infrastructure has been marked on a plan and registered with the relevant local authority (e.g. local Council) and Dial Before You Dig. 3. Permits and approval documents issued; archival reports (where required) complete and submitted. 4. The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use	1. Formal acceptance from landowner. 2. Surveyed and marked on the as-constructed final landform plan. Copy of notification to local Council and Dial Before You Dig Identified on an appropriate legal instrument associated with the land title. 3. Copy of any relevant approvals and associated reports. 4. Engineering report/statement, photos, risk assessment report validating modes of failure have been addressed to minimise risks to public safety and the environment etc.
NTSF & STSF – surface and embankments Native ecosystem	A2					
Water management area Native Ecosystem	A3					
Cadia Extended – backfilled pit Native ecosystem	A4					
Active mining area (open cut void) Native Ecosystem	A5					
Beneficiation facility Native Ecosystem	A7					
Infrastructure to be removed – Cadia and Ridgeway access controls, workshops, roads, pumps Agricultural - grazing	B1					
Infrastructure area Water management area	F1					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
NTSF & STSF – drainage structures & wetlands Water management area	F3					
Cadia Extended – creek diversion Water management area						
NWRD & SWRD – rock-lined drains Water management area	F4					
PTSF Final void	J2					
Cadiangullong Dam, sediment dams Water storage areas	G3					
PTSF – area above deposition level to the top of the void Final void	J5					
Heritage Precinct Heritage area	H8					
Ridgeway and Cadia East Subsidence Zones Final Void	J6					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Heritage Precinct Heritage area	H8	Retention of infrastructure	All infrastructure that is approved to remain for the final land use is safe and does not pose any hazard to the community.	Retention of heritage features.	Retention of heritage features.	Structural engineering inspection records.
Cadia Extended – backfilled pit Native ecosystem	A4	Land and water contamination	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm	Waste material and/or visible contamination areas on site surface.	There are no visible signs of contamination following the removal of plant, equipment and materials. All rubbish/ waste materials removed from site.	Statement provided and before/after photos.
Cadia Extended – carpark and materials stockpiles Native ecosystem	A1	Land and water contamination	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm	Waste material and/or visible contamination areas on site surface. Soil testing for contaminants of concern as listed by Health Investigation Level of the National Environment Protection	1. There are no visible signs of contamination following the removal of plant, equipment and materials. All rubbish/ waste materials removed from site. 2. Contamination will be appropriately remediated so that appropriate guidelines for land use are met.	1. Statement provided and before/after photos. 2. Contamination Remediation Report prepared by Land Contamination Consultant. Site Contamination Audit Report and Site Audit Statement prepared by EPA Accredited Auditor (where required).
NTSF & STSF – surface and embankments Native ecosystem	A2					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Infrastructure to be removed – Cadia and Ridgeway access controls, workshops, roads, pumps Agricultural - grazing	B1					
Water management area Native Ecosystem	A3					
Active mining area (open cut void) Native Ecosystem	A5					
Beneficiation facility Native Ecosystem	A7					
Infrastructure area Water management area	F1					
NTSF & STSF – drainage structures & wetlands Water management area	F3					
Cadia Extended – creek diversion Water management area	F3					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
NWRD & SWRD – rock-lined drains Water management area	F4					
PTSF – area above deposition level to the top of the void Final void	J5					
Ridgeway and Cadia East Subsidence Zones Final Void	J6					
Process water pond, site runoff pond Water storage areas	G3	Land and water contamination	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm	1. Waste material and/or visible contamination areas on site surface. 2. Soil testing for contaminants of concern as listed by Health Investigation Level of the National Environment Protection	1. There are no visible signs of contamination following the removal of plant, equipment and materials. All rubbish/ waste materials removed from site. 2. Contamination will be appropriately remediated so that appropriate guidelines for land use are met. Excess sludge/material has been removed from surface water storages.	1. Statement provided and before/after photos. 2. Contamination Remediation Report prepared by Land Contamination Consultant. Site Contamination Audit Report and Site Audit Statement prepared by EPA Accredited Auditor (where required).
PTSF Final void	J2					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Cadia Extended – carpark and materials stockpiles Native ecosystem	A1	Management of waste and process materials	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use	1. Capping design and construction records. 2. Capping performance.	1. Quality assurance records verify capping constructed in accordance with design specifications relevant to site risks and target final land use 2. No evidence of compromised capping performance indicated by vegetation health – such as tree death (deeper root systems). 3. Groundwater and surface monitoring verify capping function and design performance permeability/seepage. Groundwater and surface water monitoring verify adequate containment of waste materials and seepage/leachate is not contributing to land/groundwater contamination.	1. Photos, rehabilitation monitoring reports, as-constructed surveys, quality assurance records for construction, independent geotechnical reports (where required), The structural integrity of the capping has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use. 2. Inspection, rehabilitation monitoring reports 3. Groundwater/surface water monitoring reports.
Cadia Extended – backfilled pit Native ecosystem	A4					
PTSF Final void	J2	Management of waste and process materials	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use	Visual – emplacement seepage and other indicators of groundwater issues – wet spots etc. Measured - surface and groundwater levels to verify water balance modelling. Measured – contamination levels in surface and groundwater for contaminants of concern associated with waste material emplaced.	Visual – no areas of unexpected seepage Quality assurance records verify seepage control measures in place and effective. Groundwater and surface water monitoring verify adequate containment of waste materials and	Photos, survey records of tailings levels, erosion surveys, independent geotechnical reports, groundwater/surface water monitoring reports.
PTSF – area above deposition level to the top of the void Final void	J5					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Ridgeway and Cadia East Subsidence Zones Final Void	J6				seepage/leachate is not contributing to land/groundwater contamination.	
NTSF & STSF – surface and embankments Native ecosystem	A2	Management of waste and process materials	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use	Visual –capping material placement, type across emplacement Visual – indication of capping performance on final landform – vegetation health Visual – emplacement seepage and other indicators of groundwater issues – wet spots etc. Measured - survey of emplacement capping to verify construction and to monitor settlement. Quality assurance records for the construction of the emplacement material including (where relevant) capping material, liner system, seepage control etc Measured- surface and groundwater levels to verify water balance modelling and capping function Measured – contamination levels in surface and groundwater surrounding emplacement for	Visual – verification that capping, type and placement consistent with design Visual – no signs of compromised capping performance indicated by vegetation health – such as tree death (deeper root systems) Visual – no areas of unexpected seepage. Survey verifies that capping placement is consistent with design and settlement and/or material loss is within predicted limits and will not compromise final landform drainage via differential settlement. Quality assurance records verify capping constructed and in accordance with design specifications relevant to site	Photos, rehabilitation monitoring reports, As-constructed surveys, quality assurance records for construction, erosion surveys, independent geotechnical reports, groundwater/surface water monitoring reports. The structural integrity of the infrastructure and capping has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use and waste material adequately contained.
Infrastructure to be removed – Cadia and Ridgeway access controls, workshops, roads, pumps Agricultural - grazing	B1					
Water management area Native Ecosystem	A3					
Active mining area (open cut void) Native Ecosystem	A5					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Beneficiation facility Native Ecosystem	A7			contaminants of concern associated with waste material emplaced.	risks and target final land use, including: a. Capping depth b. Capping material type – compacted clay or HDPE liner Seepage control - Groundwater and surface monitoring verify capping function and design performance permeability/seepage. Groundwater and surface water monitoring verify adequate containment of waste materials and seepage/leachate is not contributing to land/groundwater contamination.	
Infrastructure area Water management area	F1					
Ridgeway and Cadia East Subsidence Zones Final Void	J6	Landform stability	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to	Visual – presence of safety fence, bund and vegetated screen	Presence of a maintained safety fence, bund, visual screen and trench that is effective in preventing unauthorized access.	Inspection; documentation showing no unauthorised access has occurred.
				Measured - survey of rehabilitated landform to verify final landform is in accordance with Final Landform and Rehabilitation Plan.	Final landform in accordance with approved Final Landform and Rehabilitation Plan.	Survey

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
			the public/stock/native fauna.	Measured - survey of rehabilitated landform to specifically monitor settlement and/or material loss via erosion.	Survey verifies that settlement and/or material loss is within Environmental Assessment limits and will not compromise final landform drainage via differential settlement.	Survey
Cadia Extended – carpark and materials stockpiles Native ecosystem	A1	Landform stability	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	Visual - indicators of erosion and land instability. Visual - indicators that surface water management structure are functioning as designed. Measured - Survey of rehabilitated landform to verify final landform construction in accordance with Final Landform and Rehabilitation **Figure 6.** Measured - survey of rehabilitated landform to specifically monitor settlement and/or material loss via erosion.	Visual- minimal erosion that would not require moderate to significant ongoing management and maintenance works. Visual – no signs of land instability such as mass movement. Visual - no areas of active gully erosion. Visual - no evidence of tunnel erosion. Visual – no evidence of active scour likely to compromise surface water management structure. Survey verifies final landform complies with final landform construction in accordance with Final Landform and Rehabilitation Plan. Survey verifies that settlement and/or material loss is within predicted limits and will not	Before and after photos, rehabilitation monitoring reports, AS-constructed surveys, erosion surveys, independent geotechnical reports (where required) and or erosion modelling reports (where required) that indicate long-term stability of rehabilitated landform. Stability will need to be evaluated over a number of years (e.g. 5 years). An engineering assessment undertaken by a suitably qualified person concludes that significant surface water management structures (e.g. spillways, drop structures, major drains and creek diversions) have been constructed in accordance with hydrological design. An engineering assessment undertaken by a suitably qualified person concludes that embankments have been constructed in accordance with geotechnical design.
NTSF & STSF – surface and embankments Native ecosystem	A2					
Water management area Native Ecosystem	A3					
Cadia Extended – backfilled pit Native ecosystem	A4					
PTSF Final void	J2					
PTSF – area above deposition level to the top of the void Final void	J5					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Infrastructure to be removed – Cadia and Ridgeway access controls, workshops, roads, pumps Agricultural - grazing	B1				compromise final landform drainage via differential settlement. Significant surface water management structures (e.g. spillways, drop structures, major drains and creek diversions) have been constructed in accordance with hydrological design. Embankments have been constructed in accordance with geotechnical design.	
Active mining area (open cut void) Native Ecosystem	A5					
Beneficiation facility Native Ecosystem	A7					
Infrastructure area Water management area	F1					
NTSF & STSF – drainage structures & wetlands Water management area	F3					
NWRD & SWRD – rock-lined drains Water management area	F4					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Cadiangullong Dam, sediment dams Water storage areas	G3					
Process water pond, site runoff pond Water storage areas						
Cadia Extended – carpark and materials stockpiles Native ecosystem	A1	Bushfire	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire controls implemented.	Statement provided and before/after photos.
NTSF & STSF – surface and embankments Native ecosystem	A2					
Water management area Native Ecosystem	A3					
Cadia Extended – backfilled pit Native ecosystem	A4					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Active mining area (open cut void) Native Ecosystem	A5					
Beneficiation facility Native Ecosystem	A7					
Ridgeway and Cadia East Subsidence Zones Final Void	J6					
Infrastructure to be removed – Cadia and Ridgeway access controls, workshops, roads, pumps Agricultural - grazing	B1	Bushfire	The risk of grassfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire (grassfire) hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire (grassfire) controls implemented.	Statement provided and before/after photos.
PTSF – area above deposition level to the top of the void Final void	J5					
Ridgeway and Cadia East Subsidence Zones Final Void	J6	Water Quality	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans	1. Water quality parameters identified in Environmental Assessment 2. Final void lake water level	1. Water quality discharged from rehabilitated mining operation meet parameters identified in Environmental Assessment. 2. Pit lake water level remains below spillway No evidence of pit lake spilling into surrounding natural environment	1. Water quality monitoring reports. Independent hydrological assessment report. 2. Inspection
PTSF Final void	J2					
PTSF – area above deposition level to the top of the void Final void	J5					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Cadia Extended – carpark and materials stockpiles Native ecosystem	A1	Water Quality	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans	Water quality parameters identified in Environmental Assessment	Water quality discharged from rehabilitated mining operation meet parameters identified in Environmental Assessment	Water quality monitoring reports. Independent hydrological assessment report.
NTSF & STSF – surface and embankments Native ecosystem	A2					
Water management area Native Ecosystem	A3					
Cadia Extended – backfilled pit Native ecosystem	A4					
Active mining area (open cut void) Native Ecosystem	A5					
Beneficiation facility Native Ecosystem	A7					
Infrastructure to be removed – Cadia and Ridgeway access controls, workshops, roads, pumps Agricultural - grazing	B1					
Infrastructure area Water management area	F1					
Cadia Extended – creek diversion Water management area	F3					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
NWRD & SWRD – rock-lined drains Water management area	F4					
Cadiangullong Dam, sediment dams Water storage areas	G3					
Process water pond, site runoff pond Water storage areas						
Infrastructure area Water management area	F1	Water approvals	Dams are appropriately licensed (e.g. under the Water Management Act 2000) to take water and where required ensure sufficient licence shares are held in the water source(s) to account for water take.	Final landform considers advice from relevant Government Agency whether sufficient licence shares are available in the water source to account for water stored in the proposed final dam.	Water approvals/licences are granted by relevant NSW Government Agency.	Confirmation from relevant Government Agency that relevant water approvals/licences are able to be granted.
NTSF & STSF – drainage structures & wetlands Water management area	F3					
Cadia Extended – creek diversion Water management area						
NWRD & SWRD – rock-lined drains Water management area	F4					
Cadiangullong Dam, sediment dams Water storage areas	G3					
Process water pond, site runoff pond Water storage areas						

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
PTSF Final void	J2	Water approvals	Final void is appropriately licensed (e.g. under the Water Management Act 2000) to take water and where required ensure sufficient licence shares are held in the water source(s) to account for water take.	Final landform considers advice from relevant Government Agency whether sufficient licence shares are available in the water source to account for water stored in the proposed final void. Granting of water approvals/licences applicable to the final void lake.	Water approvals/licences are granted by relevant NSW Government Agency.	Confirmation from relevant Government Agency that relevant water approvals/licences are able to be granted.
PTSF – area above deposition level to the top of the void Final void	J5					
Ridgeway and Cadia East Subsidence Zones Final Void	J6					
Cadia Extended – carpark and materials stockpiles. Native ecosystem	A1	Groundwater	Groundwater achieves quality objectives of Project Environment Protection Licence and approved management plans	Water quality parameters identified in Environmental Assessment	Water quality discharged from rehabilitated mining operation meet parameters identified in Environmental Assessment	Water quality monitoring reports. Independent hydrological assessment report.
NTSF & STSF – surface and embankments Native ecosystem	A2					
Water management area Native Ecosystem	A3					
Cadia Extended – backfilled pit Native ecosystem	A4					
Active mining area (open cut void) Native Ecosystem	A5					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Beneficiation facility Native Ecosystem	A7					
Cadia Hill Pit TSF (PTSF) Final void	J2					
Infrastructure to be removed – Cadia and Ridgeway access controls, workshops, roads, pumps Agricultural - grazing	B1					
PTSF – area above deposition level to the top of the void Final void	J5					
Ridgeway and Cadia East Subsidence Zones Final Void	J6					
Cadia Extended – carpark and materials stockpiles Native ecosystem	A1	Groundwater	Impacts to groundwater regime are within range as predicted in pre-mining environmental assessment.	Groundwater levels and groundwater flow.	Groundwater levels and groundwater flow meet parameters identified in Environmental Assessment	Water quality monitoring reports. Independent hydrological assessment report
Water management area Native Ecosystem	A3					
NTSF & STSF – surface and embankments Native ecosystem	A2					
Cadia Extended – backfilled pit Native ecosystem	A4					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Active mining area (open cut void) Native Ecosystem	A5					
Beneficiation facility Native Ecosystem	A7					
PTSF Final void	J2					
Infrastructure to be removed – Cadia and Ridgeway access controls, workshops, roads, pumps Agricultural - grazing	B1					
PTSF – area above deposition level to the top of the void Final void	J5					
Ridgeway and Cadia East Subsidence Zones Final Void	J6					
Infrastructure area Water management area	F1	Native Revegetation	The vegetation composition includes presence of target native wetland species that are fit to perform the function required	Native species composition recorded from monitoring plots.	Native species composition is characteristic of the target native wetland vegetation community that is required to perform the function of a constructed wetland.	Photos, rehabilitation monitoring reports, independent ecological reports.
NTSF & STSF – drainage structures & wetlands Water management area	F3					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
NWRD & SWRD – rock-lined drains Water management area	F4		of a constructed wetland (target species to be determined following further studies).			
Water management area Native Ecosystem	A3	Native Revegetation	The vegetation composition of the rehabilitation contains species are commensurate with native riparian communities found in the local area (e.g. River Sheoak Forest and/or open woodland dominated by E. viminalis, E. melliodora and E. bridgesiana).	Native species composition recorded from monitoring plots.	Native plant species are characteristic of the target vegetation community(s) when compared to analogue sites.	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met. Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated over a number of years (e.g. 5 years to 15+ years)
Water management area Native Ecosystem	A3	Native Revegetation	The vegetation structure of the rehabilitation is similar to that of native riparian communities found in the local area (e.g. River Sheoak Forest and/or open woodland dominated by E. viminalis, E.	Cover and abundance of plant growth forms recorded from monitoring plots are characteristic of the target vegetation community or an ongoing trend toward becoming characteristic is evident from the monitoring data.	Cover, abundance and height range of native plant growth forms are characteristic of, or trending towards, the target vegetation community type(s).	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met. Depending on the nature, scale and risks associated with a specific site, achievement of criteria may need to be evaluated

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
			melliodora and E. bridgesiana).			over a number of years (e.g. 5 years to 15+ years).
Cadia Extended – carpark and materials stockpiles Native ecosystem	A1	Native Revegetation	The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area. These include E. Albens - E. Melliodora - E. Blakelyi - E. Bridgesiana - E. goniocalyx (1a, 2a, and 2b) woodland communities and E. goniocalyx - E. macrorhyncha - E. viminalis - A. Acacia melanoxylon forest communities (3a, 3b and 4a). Reference to vegetation community numbers 1a, 2a, 2b, 3a, 3b and 4a	Cover and abundance of native plant growth forms from monitoring plots.	Cover, abundance and height range of native plant growth forms are characteristic of, or trending towards, the target vegetation community.	Before and after photos, rehabilitation monitoring reports, independent ecological reports.
Water management area Native Ecosystem	A3					
Active mining area (open cut void) Native Ecosystem	A5					
NTSF & STSF – surface and embankments Native ecosystem	A2					
Cadia Extended – backfilled pit Native ecosystem	A4					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
			can be found in Table 5-1 in the Cadia Rehabilitation Strategy.			
Cadia Extended – carpark and materials stockpiles Native ecosystem	A1	Native Revegetation	Ecosystem function demonstrates the rehabilitation is self-sustaining.	1. Indicators of nutrient cycling are suitable for sustaining the target vegetation community. 2. Evidence of plant regeneration. 3. Soil depth and characteristics is suitable to sustain the target vegetation communities. 4. Cover of exotic species within monitoring plots is low. 5. Resilience demonstrated by the effects of drought and fire on composition, structure and other function attributes. 6. Threats to rehabilitation.	1. Litter cover is within 10th-90th percentile variation range of analogue sites. 2. Second generation individuals of trees are within the 10th-90th percentile variation range of reference sites/data. 3. Soil quality and quantity is in accordance with parameters approved in Environmental Assessment. Vegetation health is demonstrated over successive monitoring periods. 4. Foliage cover of "high threat exotic" (HTE) weeds is within 10th-90th percentile variation range of reference sites/data. 5. Resilience to drought and fire. 6. Vertebrate pest species – presence and damage is recorded and controlled Domesticated stock – presence and damage is recorded and controlled.	Rehabilitation monitoring reports, independent soil reports, independent ecological monitoring reports, as-built survey records.
NTSF & STSF – surface and embankments Native ecosystem	A2					
Water management area (Constructed wetlands) Native Ecosystem	A3					
Cadia Extended – backfilled pit Native ecosystem	A4					
Active mining area (open cut void) Native Ecosystem	A5					

Site and Final Land Use Domain	Spatial Reference	Rehabilitation Objective Category	Approved Rehabilitation Objectives	Indicator	Proposed Rehabilitation Completion Criteria	Validation
Infrastructure to be removed – Cadia and Ridgeway access controls, workshops, roads, pumps Agricultural - grazing	B1	Agricultural revegetation	Revegetation is sustainable for the long-term and only requires maintenance that is consistent with the intended final land use. Land use capability is capable of supporting the target agricultural land use.	Soil depth and characteristics is suitable to sustain the target vegetation community. Commodity data (e.g. Stocking rates, livestock rates, crop yields, pasture composition) Resilience demonstrated by the effects of drought and fire on composition and structure of pasture.	Soil quality and quantity is in accordance with parameters approved in Environmental Assessment. Vegetation health is demonstrated over successive monitoring periods. Land and soil capability classification or Agricultural Land Classification criteria met. The re-established topsoil/subsoil substrate is capable of supporting the targeted pasture on a sustained basis. Pasture establishment is consistent with the range of species utilised within the region. Pasture establishment is in good health and provides adequate cover. Appropriate and reliable access to water for livestock. Appropriate areas of treed vegetation for animal refuge areas. Resilience to drought and fire.	Rehabilitation monitoring reports, independent soil reports (where required), independent agronomist reports.

4.2 Rehabilitation Objectives and Rehabilitation Completion Criteria – Stakeholder Consultation

In preparation for submission of the Cadia East Environmental Assessment, Cadia consulted with regulatory bodies and community stakeholders regarding the project, including aspects such as mine closure and final post-mining land uses. In addition, there was opportunity for regulatory agencies and the general public to provide formal comment on the project and final land use options as part of the public exhibition of the Cadia East Project. As per PA 06_0295, Cadia engaged a team of suitably qualified and experienced experts (Approved by the then NSW DPE Secretary[3]) to prepare a rehabilitation strategy for Cadia. The role of the expert team was to:

"Schedule 3, Condition 36

(c) investigate options for the future use of disturbed areas including voids upon the completion of mining;

(d) describe and justify the proposed rehabilitation strategy for the site, including the post-mining landform and use;

(e) define the rehabilitation objectives for the site, as well as the proposed completion criteria for this rehabilitation;

(f) include a conceptual final landform and rehabilitation plan;

(g) include a life of mine rehabilitation and mining schedule which outlines key progressive rehabilitation milestones from the commencement of operations through to decommissioning and mine closure; and

(h) managing and minimising any adverse socio-economic effects associated with mine closure"

The expert panel comprised the following members:

- Dr David Goldney
- Dr Donna Johnston
- Mr Martin Haege
- Dr Guy Fitzharding

As part of their role, the expert panel recommended a number of minor changes to the proposed final land uses at Cadia (compared to those stated in the Cadia East Environmental Assessment) and included in Table 3 (refer to **Section 2.2**). The Rehabilitation Strategy incorporating minor improvements suggested by the expert panel was approved by the then NSW DPIE, with subsequent updates to the Rehabilitation Strategy approved by NSW DPHI.

In addition, Cadia has consulted with the members of the Community Consultative Committee (CCC) which contains a range of members including representatives of local government and residents. Summary of feedback received is contained in **Table 11.** The CCC is chaired by an independent chairperson and meets on a quarterly basis.

[3] The expert panel was approved by the Director General – NSW Department of Planning and Infrastructure on the 28th of October 2010

Table 11. Summary of Comments Received Through Consultation and Cadia's Response

Issue Raised	Response	RMP Considerations
Why can't the pit, subsidence depressions, underground roads and infrastructure be interconnected into a water storage system.	Strategy allows for this under "future potential industrial use of site"	Yes, this RMP allows the consideration of future industrial uses of the Site (**Section 6.2.2** C. Buildings, Structures and Fixed Plant to be Retained)
There is mention of wildlife corridors being developed but are these being co-ordinated with surrounding landholders and Landcare Groups.	Strategy was modified to include this initiative under "vegetation corridor enhancement areas"	The vegetation corridor program links to native ecosystem final land uses as contained in this RMP. (Refer to **Section 6.2.5**)
Pest species, weeds, bushfire concerns	Discussion had with CCC member explaining high level of strategy and further detail will be provided in the Land and Biodiversity Management Plan regarding these issues.	Pest species, weeds, bushfire included in this RMP (**Section 0**)
Consideration of use of tailings storage facilities for forage crops (like Lucerne)	Expert panel considered cropping to be high risk (erosion / degradation) and not sustainable in the long term. Also offers little biodiversity benefit.	Use of Tailings Storage Facility surface areas for grazing has been considered and ruled out (**Section 2.2** and **Section 9.1**)
Use of voids for waste disposal	Rehabilitation Strategy allows for this under "future potential industrial use of site"	Yes, this RMP allows the consideration of future industrial uses of the Site (**Section 6.2.2** C. Buildings, Structures and Fixed Plant to be Retained)
Rehabilitation of historic mining disturbance in State Listed Heritage Area	Discussion had with CCC member explaining high level of strategy and further detail will be provided in the Land and Biodiversity Management Plan. Heritage Act issues and restrictions may affect ability to undertake suggested works.	Conservation of historical 'heritage landscapes' is an important commitment and legal requirement. Post mining land uses / objectives of heritage conservation are included in this RMP (**Section 4** and **Section 6.2.1** Error! Reference source not found.).
Caution regarding the rehabilitation of mine disturbed areas and the balance of conservation vs agriculture.	Expert panel considered returning mine disturbed landscapes back to agriculture high risk (erosion / degradation) and not sustainable in the long term.	The final land use of several mining landforms has been amended from grazing to woodland to reflect guidance by the expert panel. (**Section 2.2**)

Cadia will consult with relevant regulatory authorities, landholders, community and industry representative groups on the proposed rehabilitation completion criteria contained in the RMP.

During the life of the mine, if in response to further research, measured performance or feedback received from regulatory or community stakeholders, Cadia propose to substitute, add, amend or refine any rehabilitation objectives and rehabilitation completion criteria, the changes will be in consultation with NSW RR, key regulatory authorities, landholders and representative community groups. Consultation will be undertaken as required by the mining lease and/or consent requirements.

5 PART 5 - FINAL LANDFORM AND REHABILITATION PLAN

5.1 Final Landform and Rehabilitation Plan – Electronic Copy

The Final Landform and Rehabilitation Plans (FLRPs) have been approved by the NSW RR. **Figure 5** presents the approved final landform features and **Figure 6** presents the approved final landform contours.

Figure 5: Final Landform Features

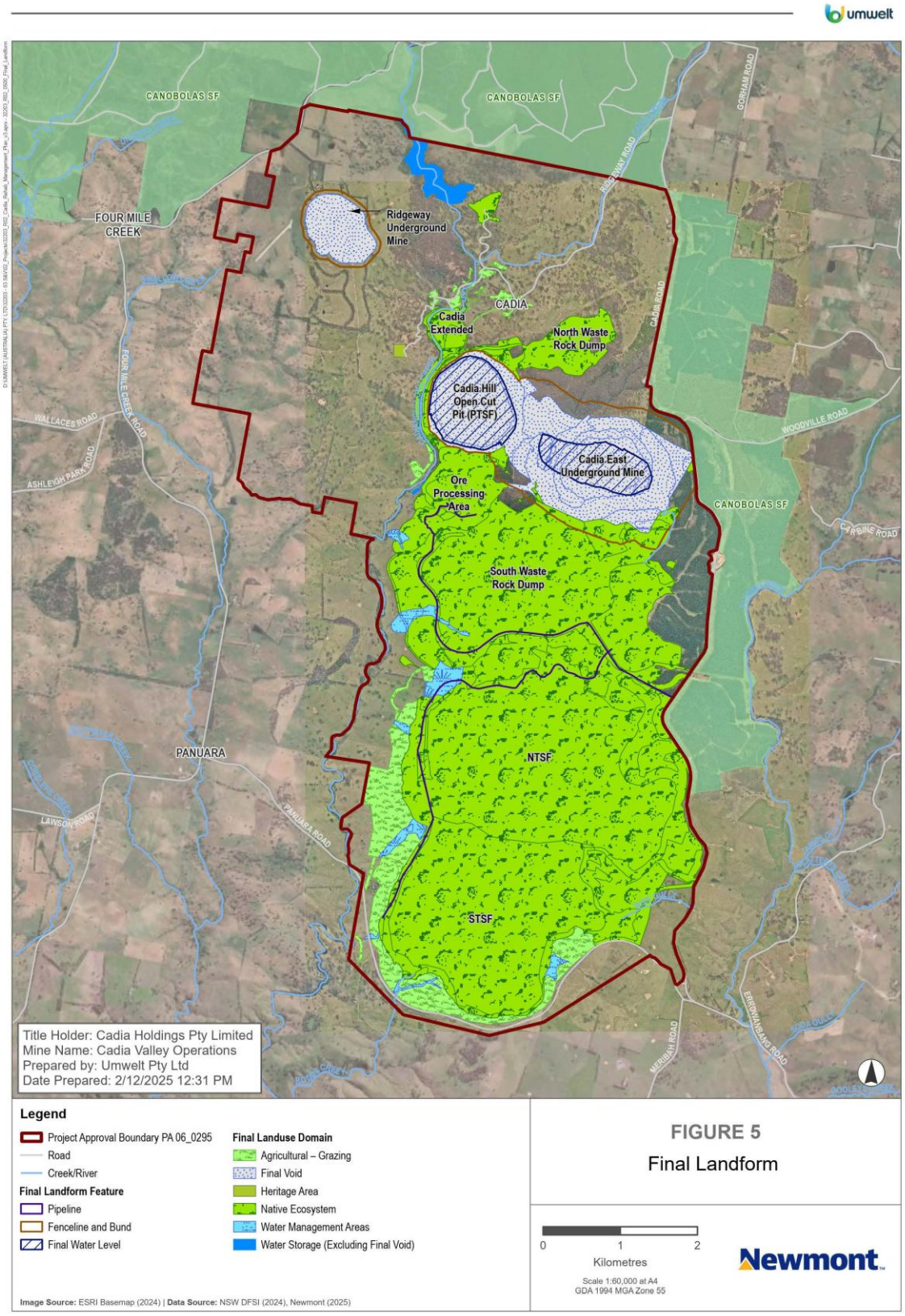
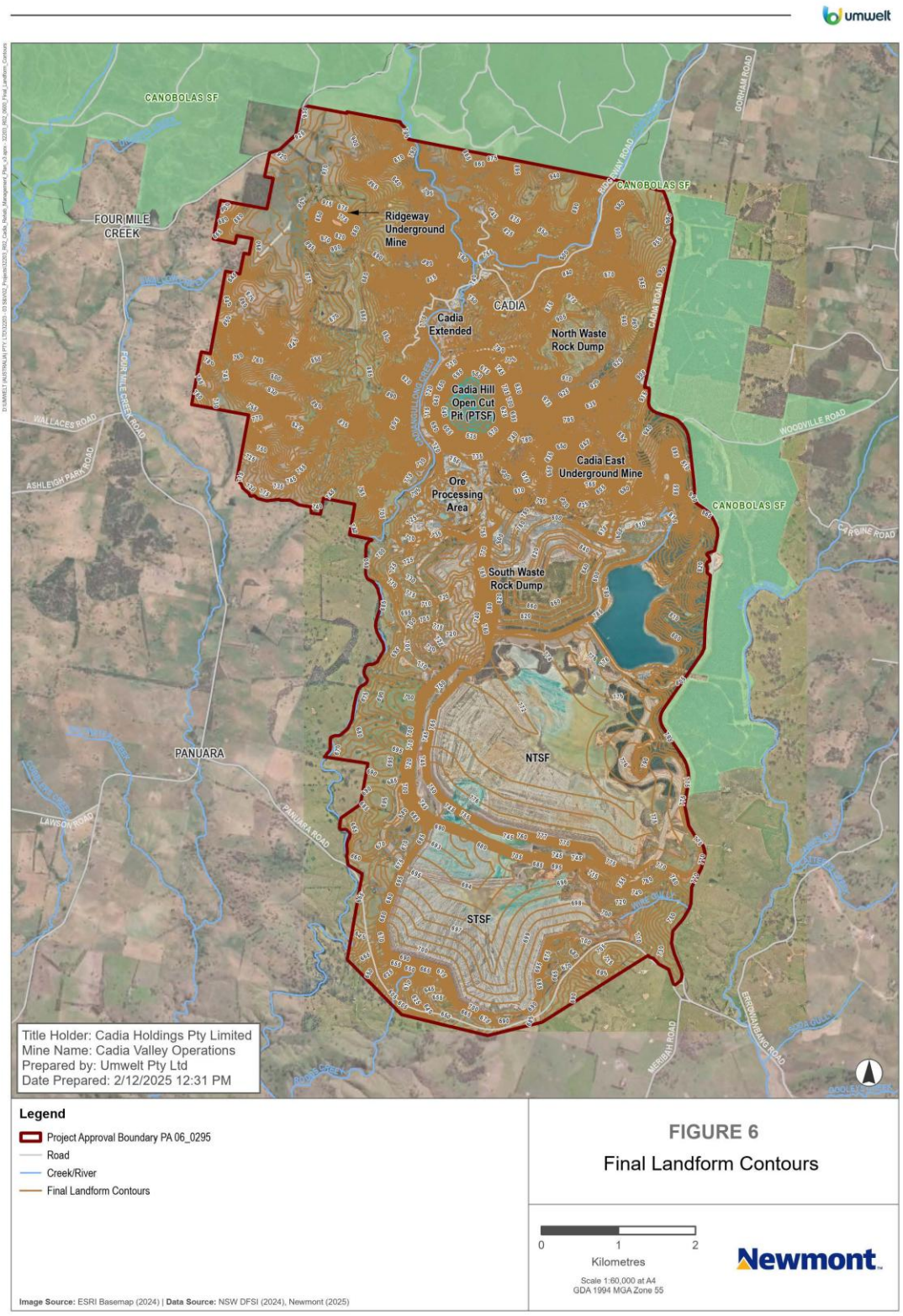


Figure 6: Final Landform Contours



6 PART 6 – REHABILITATION IMPLEMENTATION

6.1 Life of Mine Rehabilitation Schedule

The following information provides a conceptual life of mine rehabilitation and closure schedule for Cadia.

Key assumptions include:

- Opportunities for the SWRD will be progressive with small portions (for example 20 ha) undertaken on an as required basis, with a small portion left open to allow for the disposal and encapsulation of suitable materials (such as inert waste (crushed concrete etc.) contaminated soils etc as allowed by Cadia's Environment Protection Licence. The timing for rehabilitation works is to be confirmed.
- Following the completion of mining and processing activities, a period of approximately 5 years has been allowed to establish the final landforms and complete revegetation activities.
- A further 10 years have been allowed for post-closure monitoring, maintenance and management following the completion of mining in 2031, and landform establishment and rehabilitation activities in 2035. This timing will be further reviewed and refined as detailed closure planning is undertaken in the lead up to mine closure.
- The timing of decommissioning of Rodds Creek Dam will be contingent upon availability of storage at alternative storages (including the PTSF and underground workings) for the management of run-off from areas not yet fully rehabilitated. Water within Rodds Creek Dam will be transferred to either the underground workings or PTSF prior to decommissioning.
- The earliest nominated rehabilitation completion date is approximately 5 years following commencement of the 'Ecosystem Development' phase. This timeframe is likely to apply to land with a final land use domain of "agriculture – grazing."
- After rehabilitation completion (in 2035), the schedule will include a nominal 3-10 additional years (depending on domain) of monitoring and maintenance prior to applying for relinquishment.
- As Biodiversity Stewardship sites are not regulated by the Mining Act, there is no formal sign off required as part of this RMP.

As far as practicable, disturbed areas on the mining leases will be progressively or temporarily rehabilitated following the cessation of the relevant activities. Cadia will remain a reasonably 'static' operation for a number of years with respect to the disturbance footprint with areas available for rehabilitation largely limited to areas requiring remediation in accordance with the recently issued Section 240 notices (refer to **Section 1.1.4**).

A draft schedule which reflects the rehabilitation program and assumptions above has been prepared and is presented in **Table 12.** This schedule of rehabilitation demonstrates that Cadia has:

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

Rehabilitation Plans for Years 2025 (representative of current disturbance/rehabilitation at time of RMP update) and a conceptual plan for 2030 have been prepared and are shown below in **Figure 7** and **Figure 8.**

To ensure success across all phases of rehabilitation and life of mine rehabilitation schedule, Cadia will ensure that rehabilitation personnel are sufficiently skilled and experienced (including engaged rehabilitation consultants) through appropriate training (where required), that rehabilitation responsibilities are clearly defined within the organisation on an annual basis to ensure appropriate rehabilitation activities occurs, which will ensure organisational continuity is achieved to maximise the effectiveness of rehabilitation.

Table 12 Draft Rehabilitation Schedule

	Mine Closure Planning						Decommissioning and Rehabilitation				Assessment Against Completion Criteria				Relinquishment						
	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Year 2032	Year 2033	Year 2034	Year 2035	Year 2036	Year 2037	Year 2038	Year 2039	Year 2040	Year 2041	Year 2042	Year 2043	Year 2044	Year 2045	Year 2046
	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Closure Planning																					
Stakeholder consultation regarding closure																					
Develop Mine Closure Plan																					
Review and update RMP / Forward Program																					
Develop an infrastructure demolition plan																					
Consultation with RR regarding completion criteria																					
Closure Execution																					
Demolition/decommissioning of infrastructure (including water management infrastructure)																					
Landform establishment																					
Growth medium development																					
Ecosystem and land use establishment																					
Ecosystem and land use development																					
Post Closure Activities																					
Maintenance of rehabilitated areas																					
Monitoring and inspections																					
Rehabilitation Relinquishment																					
Rehabilitation relinquishment																					

Figure 7: Life of Mine Rehabilitation and Mining Plan (2025)

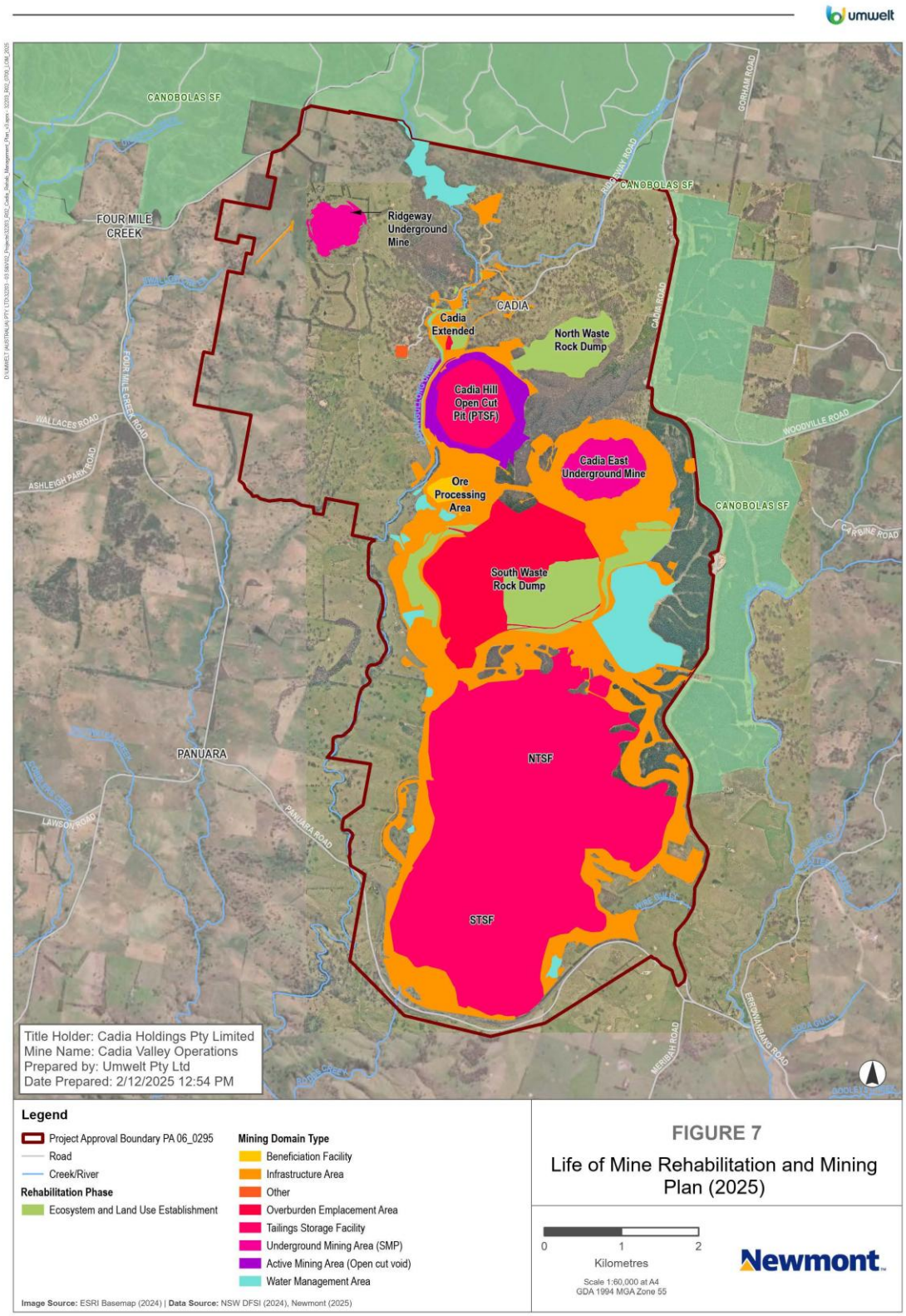
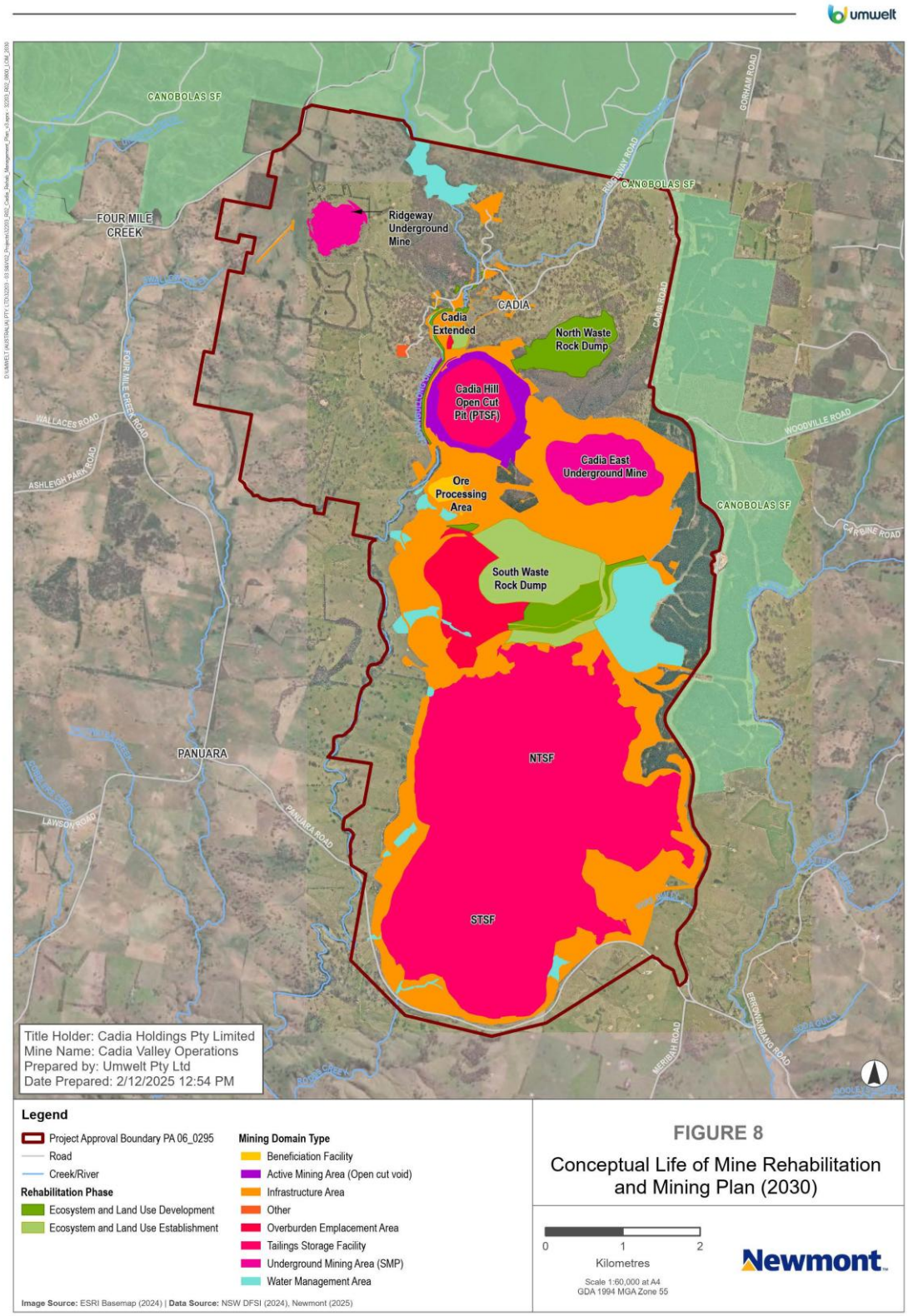


Figure 8: Conceptual Life of Mine Rehabilitation and Mining Plan (2030)



Phases Of Rehabilitation and General Methodologies

The sequence of actions required to rehabilitate disturbed areas to achieve the final land use are classified into conceptual stages referred to as phases of rehabilitation. These phases are:

- Active mining
- Decommissioning
- Landform establishment
- Growth medium development
- Ecosystem and land use establishment
- Ecosystem and land use development
- Rehabilitation completion (sign-off).

This section describes these phases in detail.

As discussed in **Section 1.1.4**, a Rehabilitation Enhancement Strategy (Umwelt, 2025) has been developed and issued to the NSW RR as a requirement of NTCE0017029. The Rehabilitation Enhancement Strategy outlines rehabilitation work methodologies to be implemented across the existing NWRD and SWRD footprints to improve existing rehabilitation works. The Rehabilitation Enhancement Strategy should be referred to in conjunction with this RMP for specific rehabilitation methodologies to be implemented for the NWRD and SWRD.

6.1.1 Active Mining Phase

This subsection summarises the risks and opportunities for rehabilitation associated with the active mining phase across the mining domains.

A. Soils and Materials

The active mining phase provides the primary opportunity to salvage and store soil and other rehabilitation materials to ensure that final landforms and land uses can be achieved. The following sections present Cadia's processes for ensuring that adequate topsoil, clay and benign waste rock are available to achieve final land use goals.

A materials inventory is shown in **Table 13**.

Table 13 Rehabilitation Materials Inventory

Topsoil 2025 (m³)		
Total Available Topsoil (In stockpile & to be stripped)	**Topsoil required for 0.2 m coverage of disturbed areas (~2216 ha)**	**Surplus (+) or deficit (-)**
4,588,515	4,432,000	156,515
Benign Rock / NAF 2025 (m³)		
Total Available NAF (NAF currently stored in the 'blue' dump in the SWRD)	**Projected NAF Required**	**Surplus (+) or deficit (-)**
56,124,665	53,684,262	+2,440,403
Clays 2023 (m³)		
Total Available Clays*	**Projected Clay Required (Capping of PAF Cell)**	**Surplus (+) or deficit (-)**
1,800,000	500,000	+1,300,000

*in-situ clays from future disturbance footprint assuming average 0.5m of clay salvageable over ~ 360 Ha remaining to be disturbed)

Topsoil

Soil classifications and assessments completed for Cadia Hill, Ridgeway and Cadia East mines identify the soils in the vicinity of Cadia as being of high quality and presenting low risk of erosion and dispersion.

The risks associated with topsoil management at Cadia relate to insufficient topsoil for rehabilitation purposes and topsoil lacking certain nutrients or elements that may impact establishment of target species (associated with inappropriate mixing with subsoils during stripping and stockpiling).

Cadia issues internal EIPs that aim to maximise the salvage of topsoil and clay resources from disturbance areas by outlining the processes required for handling and storage, QA/QC, and stockpile management. Measures implemented to manage these resources include:

In summary:

- Stripping depth is a minimum of 200 mm; however, this may vary depending on the location of stripping and is specified through the issuing of the Cadia EIP.
- Topsoil is generally stripped on a campaign basis and placed in topsoil stockpiles. To maximise topsoil integrity, stripping is undertaken where possible in periods where adequate soil moisture is present to prevent dust generation, yet dry enough to allow stripping without machinery slipping or bogging.
- Where possible, direct placement of stripped soil onto rehabilitation landforms will be undertaken to minimise the re-handling of material and to take advantage of seed banks and soil biota.
- To reduce the 'weed seed burden' for Native Ecosystem final land use areas, the outer surface of a stockpile is 'scalped' prior to placement on a shaped landform.
- To maintain biological integrity, topsoil stockpiles stored on site greater than 6 months are to be seeded with local acacia species seed mixes and maintained to minimise weed infestation. This process is currently being implemented for recent topsoil stockpiles created and will be retrospectively implemented for existing stockpiles.
- Prior to the spreading of topsoil from stockpiles, Cadia will implement a sampling program for stockpiled topsoils to ensure that soils are suitable for the final land use and, if not implement soil amelioration to ensure suitability.
- Topsoil from stockpiles is loaded by excavator into trucks, then transported to the rehabilitation area and spread with a bulldozer to a nominal 0.2 m thickness.
- Topsoil from areas in a similar post mining land use location will be used to take advantage of available seed banks.

Annual assessment of rehabilitation works against the proposed completion criteria has demonstrated the suitability of topsoil for rehabilitation. Previous assessments during annual ecological monitoring have included a full suite of parameters (refer to **Section 8.1**), and a select number of parameters are proposed as formal mine completion criteria for Native Ecosystem and Agricultural – Grazing final land uses (refer to **Section 4**).

As of June 2025, approximately 2,216 ha of land has been stripped of topsoil with approximately 4,588,515 m^3 currently stored in various stockpile locations or available for reclamation at Cadia. At the nominated spreading depth of 0.2m, the current stored volume of topsoil is sufficient for covering 2,216 ha of disturbed land.

A topsoil reconciliation and balance is included in **Table 13**.

Clay

Clay is required for the encapsulation of PAF material (refer to Section 6.2.1 H. Materials Prone to Generating Acid Mine Drainage) via the placement of a 0.5 m compacted clay layer to reduce rainfall infiltration. Clay is also used for TSF embankment construction. Having insufficient clay material for encapsulation is a risk to achieving the proposed landform and final land use for the unrehabilitated portion of the PAF Waste Rock Dumps at Cadia.

Clay material will be salvaged from the inundation areas of the NTSF, STSF, and the subsidence zone.

Clay that is suitable for TSF embankments and encapsulation of PAF material is generally directly placed from borrow pits or opportunistically stockpiled.

In the event of insufficient clay availability, alternate low-permeability seal options are available for encapsulation, including the use of an HDPE Liner as implemented on the NWRD.

A clay reconciliation and balance is included in **Table 13**.

Benign Waste Rock

Benign (NAF) waste rock is required to provide the growth medium (cover design) and final surface profile for the rehabilitation of the following areas:

- PAF waste rock dump areas within the SWRD;
- In unconsolidated trafficable areas and water management structures of the NTSF and STSF;
- For completion of the Cadia Extended Pit; and
- Bunding surrounding subsidence zone (if alternative material cannot be sourced).

NAF material originates from the Cadia Hill Pit and has been assessed (as NAF) and selectively placed in a separate portion of the SWRD. NAF material is also used for TSF construction including buttressing.

The 2025 materials balance/projection is showing a NAF volume surplus of approximately 2,440,403m^{3}with a materials inventory shown in **Table 13**.

As stated in **Section 1.1.4**, a 16 ha area of rehabilitated SWRD (NAF portion) will be re-disturbed in the year to 30 June 2027 to recover benign waste rock for construction of the NTSF and STSF embankments including buttressing (-10.5 Ha re-disturbed in FY2023 and ~8.8 Ha re-disturbed in FY2024).

Environmental Impact Permits

To ensure disturbance is in accordance with project approvals and to implement environmental controls (such as sediment control, dust control, drainage, vegetation clearance, fauna impact, heritage impact), an EIP system has been developed (internal procedure Cadia PRO EIP 710-005-EN-PRO-0006 (CHPL 2021) (CHPL 2020b). These EIPs impose environmental conditions that ensure works are completed generally in accordance with PA 06_0295, and any other regulatory conditions (e.g. EPL).

Disturbance Outside Approved Disturbance Footprint

To ensure disturbance does not occur outside the approved disturbance footprint, conditions are placed in the EIP that require our approval boundary be delineated (utilising flagging tape or similar), with works not permitted outside the delineated area. These conditions are then signed off by the appropriate owner of the disturbance works (Construction Manager or similar), and Cadia's Environment Team.

If disturbance is required outside the approved disturbance footprint, then the appropriate approval pathway is assessed and determined as part of the EIP process, and a permit is not issued until all appropriate approvals are in place.

This process is rigorous and ensures vegetation outside the approved disturbance footprint is protected.

If any rehabilitation is required following disturbance, this will be captured in the EIP.

B. Flora

During the active mining phase, several programs are in place to facilitate the successful rehabilitation of the mine and achieve the stated final land uses.

Seed Collection

The proposed final land uses at Cadia are:

- Native Ecosystem (conservation): Cadia has previously collected local native seed for rehabilitation activities, however from 2023 has commenced an improved and more comprehensive seed collection program as well as maintaining a seed store.
    - Native seed will generally be collected from within a 50 km radius of Cadia (to ensure local provenance) and will be undertaken in general accordance with Florabank guidelines.
    - Where native seed cannot be collected in sufficient quantity to support rehabilitation, Cadia will purchase seed from reputable commercial suppliers.
    - Native seed collection will target native species associated with vegetation communities nominated for the final land use domains.
- Pasture (Agriculture): Seed for the establishment of the final land use of agriculture and grazing is commercially available in reliable quantities and will be purchased by Cadia as required.

Local provenance seed should be collected progressively throughout the year to meet forecast supply requirements. Collected seed will be appropriately stored in dry conditions at a constant cool temperature, avoiding exposure to high temperatures and humidity. Appropriate samples of seed proposed for use in rehabilitation works program will undergo independent viability and germination testing by a suitably qualified person/contractor before its use. Records will be maintained for each revegetation program.

As part of the Rehabilitation Enhancement Strategy 5-year Works Program (Umwelt, 2025), a suitably qualified person will be engaged in FY2026 to review the current seed collection and storage process implemented by Cadia for revegetation of the NWRD and SWRD.

Rehabilitation species lists are contained in **Section 6.1.5**.

Propagation

In certain areas (e.g., for visual screens around both the Ridgeway and Cadia East Subsidence Zones and rehabilitation infill planting areas), tube stock may be used.

Where tubestock planting is required, local provenance seed will be collected (in accordance with the procedure nominated in **Seed Collection** above) and provided to a selected commercial nursery.

The seed will be provided at least nine months prior to planting to ensure sufficient time for propagation.

Weed Management

Weed control, during the active mining phase will reduce the weed seed burden as rehabilitation phases are entered. Measures to manage weed populations at Cadia include:

- Restriction on the importing of soil and vegetation materials to the mine site, with the exclusion of imported treated biosolid material.
- Requirements for vehicles and equipment to be clean prior to entering site.
- Implement an ongoing weed management program in the rehabilitation areas using specialised land management contractors.
- Frequent site inspections of rehabilitation and general site areas.
- Establishment of appropriate vegetation community groundcovers.
- Annual ecological assessment against proposed Rehabilitation Performance Criteria.

Bushfire

Cadia has developed and implements a bushfire fuel management plan for the operational mining (mining lease) areas. The aim of the plan is to manage fuel loads within operational areas to prevent catastrophic bushfire events. Actions include knockdown spraying, hazard reduction burns (usually conducted during training exercises), maintenance of large fuel free areas and rapid response capabilities.

Bushfire fuel management plans have also been developed for Cadia's Conservation Offset Areas and farming land.

Significant external resources are located nearby including several Rural Fire Service Brigades, with aerial suppression resources located at Orange Airport.

Protection of Remnant Woodland and Completed Rehabilitation Areas

Protected remnant areas and completed rehabilitation areas where access is restricted are identified, mapped and communicated to general Cadia workforce.

All clearing and/or disturbance activities require the issuing of an EIP. The permit assessment process includes confirming that areas have been formally assessed and approved for disturbance prior to issuing the permit. If the proposed area is not formally approved for disturbance, an EIP will not be issued.

The approved permit generally requires (via the setting of conditions) formal delineation of the proposed disturbance area, habitat relocation, topsoil salvage requirements etc.

C. Fauna

Known threatened fauna occurring in the vicinity of Cadia includes:

- Eastern Bent Winged Bat
- Yellow Bellied Sheath-tailed Bat
- Squirrel Glider
- Rosenberg's Goanna
- Superb Parrot
- Swift Parrot
- Turquoise Parrot
- Brown Treecreeper
- Speckled Warbler
- Regent Honeyeater
- Diamond Firetail
- Barking Owl

During clearing activities, the following mitigation measures are implemented and include:

- Restriction of clearing to formally assessed and approved disturbance areas (via EIP).
- Protection of remnant vegetation.
- Where possible, minimising disturbance during all phases of the project.
- Pre-clearance assessment (including vegetation clearance protocol / threatened Species protocol).
- Pre-clearance survey (in field).
- Where possible, clearing of low value habitat trees followed by clearing of habitat trees 24 hours post.
- Vegetation clearing overseen by a Fauna Spotter Catcher.
- Opportunistic habitat salvage / relocation program (further information in Section 6.2.1 B. Flora).
- Predatory pest control.
- Internal procedures for injured wildlife.
- Formal biodiversity offset areas and progression towards establishing stewardship sites.

Vegetation Clearing and Threatened Species Protocols

The Cadia Vegetation Clearing Protocol (VCP) and Threatened Species Management Protocol (TSMP) have been developed to facilitate the identification and management of significant impacts on any native vegetation and threatened flora and fauna species. The VCP and TSMP are implemented as part of the Environmental Impact Permit process, with the aim to ensure there is a robust process to identify and mitigate impacts where possible.

Relocation of Habitat Resources

Habitat salvage involves the relocation of materials from areas identified for clearing to rehabilitation areas to provide immediate habitat resources for fauna occupation. Habitat resources can include laying timber, piling timber, stacked rocks, standing stags (mature trees with hollows) etc.

Habitat relocation will continue to be undertaken during the active mining phase and generally consists of:

- The removal (felling) of timber from areas to be cleared and stockpiled (temporarily) for relocation. Prior to the relocation of stockpiled material, the timber will be assessed to ensure that no native fauna are occupying the stockpile (pre clearance survey, vegetation clearance protocol and (if required) threatened species protocol applied).
- Relocation and placement of material within rehabilitation areas (during the Ecosystem and Land Use Establishment phase).

Future source locations of habitat resources include:

- The Southern Remnant (as areas are cleared for progressive TSF expansion)
- TSF expansion zones (including inundation, embankment and buttress footprint), and
- The subsidence zone.

The number and type of habitat salvaged from these areas will be determined at the time of relocation and rehabilitation. Considerations will include:

- Whether the timber has existing features such as hollows, cracks or splits or are suitable as standing habitat.
- Timber habitat must be native timber species. Introduced species (including timber from radiata pine plantation) will not be considered within the salvage and relocation program.

- Timber should be of sufficient size to provide long-term habitat and not degrade quickly (nominally DBH > 70 cm)
- Rocks must be large > 50 cm diameter and placed in piles (varying: height, size of piles, aspect, distance from water sources etc).

Habitat resources shall be distributed randomly within the rehabilitation areas, to facilitate habitat connectivity. As the site progresses from the active mining phase into decommissioning, pre-clearance surveys will also apply to infrastructure that may be suitable habitat for native fauna including:

- Surveys for bats colonising underground workings, with the bats to be relocated prior to sealing entrances.
- Wildlife nesting on or otherwise utilising infrastructure to be dismantled and removed.

Feral Pest Control

Cadia implements annual and ongoing programs to manage predatory pest species that may impact on native fauna species. The following programs are operational during the active mining phase and will continue through to relinquishment.

Fox Control - Annual coordinated program conducted with neighbouring landholders (1080 baiting).

Feral Cat - Trapping program conducted on as needs basis following the sighting of a feral cat.

Feral Pig – Baiting (Hoggone™ and/or 1080) and trapping program conducted on as needs basis following the sighting of feral pigs.

Feral Goat – A feral goat reduction program is ongoing, which includes shooting.

Feral Cattle – A feral cattle reduction program was completed in 2025, which included trapping and shooting. Ongoing programs will be conducted in 2026 as required aiming to remove the remaining feral cattle population.

Wild dogs - Participate in any local programs to target the trapping, baiting or shooting of wild dogs.

Pest Species Impact on Revegetation Outcomes

The Eastern Grey Kangaroo and rabbit have the potential to impact upon revegetation outcomes through the grazing and browsing of establishing native vegetation and pastures.

Prior to sowing, planned rehabilitation areas and near surrounds will be assessed by Cadia to determine the scope of any pest management required to alleviate the potential for heavy grazing pressures on establishing vegetation. The pest species to be assessed include kangaroos, hares/rabbits and feral pigs. This assessment should be based on the presence and abundance of pest species, and informed by past site experience and learnings regarding what was effective in local conditions.

Large-scale fencing may be considered where practically feasible in circumstances where other pest management controls, including shooting, trapping and/or baiting, repeatedly fail to support achieving target rehabilitation outcomes.

Where the risk of impact has been identified, through regular inspection (refer to **Section 8.2**) control programs will be implemented in accordance with the stated Trigger Action Response Plan (TARP) (refer to **PART 10 – INTERVENTION AND ADAPTIVE MANAGEMENT**).

As part of the Rehabilitation Enhancement Strategy 5-year Works Program (Umwelt, 2025), Cadia will review the Annual Pest Management Program prior to the start of the wider rehabilitation

works program. As part of the review, the existing program will be extended to routinely control hares/rabbits and be subject to continual review and improvement to maintain its effectiveness.

Squirrel Glider Conservation Strategy

Squirrel Gliders have been identified on and surrounding Cadia mining leases, including within the area known as the Southern Remnant and also within areas related to expansion of the STSF and NTSF.

In 2025, Cadia developed a Threatened Species Management Strategy for the Superb Parrot and Squirrel Glider as required by Schedule 3, Condition 41(b). The strategy will be implemented by Cadia on an ongoing basis. In summary, the strategy includes:

- Pre-clearance surveys and identification of relocation sites
- Clearing management processes
- Species relocation and monitoring
- Document management, and
- Reporting.

D. Rock Overburden Emplacement

North Waste Rock Dump

The final landform of the NWRD (approximately 66 ha in size) has been established and revegetation commenced. Progress towards the Ecosystem and Land Use Establishment phase is being monitored with further remedial and additional rehabilitation (including infill planting) to be undertaken in accordance with the Section 240 notices issued by the NSW RR to Cadia [4] (as referenced in **Section 1.1.4** and discussed further below).

As the NWRD contained a blend of NAF and PAF materials, a store and release cover design was constructed consisting of:

- Shaping of batters to a maximum gradient of 1:3 (18 degrees)
- Reverse graded berms & formal drop structures to manage surface waters
- HDPE Liner placed on batters and berms
- 2m NAF Waste rock
- 0.2m topsoil
- Ripped and seeded to 'woodland species'
- Cover performance instrumentation installed. Data presented in annual report.

South Waste Rock Dump

As of 30 June 2025, the SWRD has been partially rehabilitated . Rehabilitated portions are in the early Ecosystem and Land Use Establishment phase, with the final land use of Native Ecosystems.

Unrehabilitated portions remain active for the placement of small amounts of waste rock / tramp material from Cadia East Mine, placement of waste material (as permitted by EPL 5590 (Section 6.2.1 E. Waste Management) and for the reclamation of NAF material for TSF construction. The SWRD also contains a portion of low-grade mineralised ore, that will likely be processed in the future. .

[4] as part of the assessment associated with Section 240 notice NTCE0012413, further works will be required to be undertaken on the NWRD and SWRD landforms, with respect to post-mining vegetation establishment. Scheduling and execution of the on-ground remedial activities will be included in Annual Rehabilitation Reports and Forward Programs.

16 ha area of rehabilitated SWRD (NAF portion) will be re-disturbed in the year to 30 June 2027 to recover benign waste rock for construction of the NTSF and STSF embankments including buttressing (-10.5 Ha re-disturbed in FY2023 and ~8.8 Ha re-disturbed in FY2024).

E. Waste Management

Cadia engages a total waste management contractor to manage the recycling and disposal of wastes. All wastes managed by the contractor are removed from site for recycling or for disposal in licenced landfill facilities.

The life of mine schedule allows for the assessment of potential soil contamination and remediation to meet NEPM specified limits. Contaminated soils will be placed within the PAF cell of the SWRD, where it will be encapsulated. Excavated areas will be backfilled with NAF material sourced from the SWRD.

EPL 5590 allows for the disposal of select waste types within the waste rock dumps (PAF Cell where it will be encapsulated) or within the TSFs. Summary of allowable waste disposal is provided in **Table 14**.

Table 14. EPL5590 waste disposal allowances

Code	Waste	Description	Activity	Other Limits
NA	General solid waste (non-putrescible)	Drill cores from exploration activities undertaken within EL4620, EL1024, EL3856, and EL4616 exploration areas.	Waste disposal (application to land)	Must be disposed of within the Potentially Acid Forming (PAF) encapsulation cell of the southern waste rock dump only.
NA	Drilling mud and/or muddy waters	Drilling mud and/or muddy waters from exploration activities undertaken within EL4620, EL1024, EL3856 and EL4616 exploration areas and from the drilling of monitoring bores associated with the scheduled activities outside of the Premises boundary.	Waste disposal (application to land)	Must only be disposed of within the Cadia Tailings Facilities
NA	General or Specific exempted waste	Waste that meets all the NA conditions of a resource recovery exemption under Clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014	As specified in each particular resource recovery exemption	NA

EPL 5590 will be updated in consultation with the NSW Environment Protection Authority to allow additional inert wastes generated from the decommissioning and demolition phases within approved landforms at Cadia.

F. Geology and Geochemistry

The geology of Cadia has been described in detail in the Cadia Hill EIS, Ridgeway EIS and the Cadia East EA. Risks associated with Cadia geology and geochemistry are restricted to potential 'Acid and Metalliferous Drainage' (AMD) and are described below in **Section 6.2.1(h)**.

G. Materials Prone to Spontaneous Combustion

There are no Spontaneous Combustion materials or risks at Cadia.

H. Materials Prone to Generating Acid Mine Drainage

Geochemical assessments, including the characterisation of waste rock and tailings, are contained in the Cadia Hill EIS, Ridgeway EIS and the Cadia East EA.

The majority of waste rock stored at Cadia was sourced from the Cadia Hill Pit with relatively small amounts of waste from Ridgeway and Cadia East. Therefore, the quality of mine leachate is predominantly determined by the geochemical composition of Cadia Hill waste material.

The geochemical assessment contained in the Cadia East EA (CHPL 2009) states that for Cadia East Silurian cover units, the majority of the material would be NAF, with minor potential for very localised acid formation with an associated low load of acidity and negligible metals. The Cadia East Ordovician units would be predominantly PAF and managed in accordance with established Cadia waste management processes where material with a sulphur content >0.5% is classified as PAF. Tailings are low in sulphur (similar to Cadia Hill and Ridgeway) and are classified as NAF.

Additional studies have also been undertaken during the active mining phase, including a detailed long-term column leach assessment project (predominantly based on Cadia Hill waste material) as presented in the 2009-10 AEMR (CHPL 2010e) and 2010-11 AEMR (CHPL 2011a). The study outcomes are summarised as:

- Materials classified as NAF (less than 0.5% S) are not expected to produce acid leachate or leach significant concentrations of metals or other elements of environmental concern. This supports the validity of the segregation criteria (PAF > 0.5%S).
- PAF waste, mineralised waste and low-grade ore are not likely to leach significant concentrations of metals and other associated AMD contaminants during the lag phase, but the lag phase may be much shorter than indicated by the acid neutralising capacity (ANC) value due to the presence of poorly reactive carbonate forms. Based on the analytical suite determined to date, acid leachate would be associated with elevated SO_4, Al, Cu, Fe, Mn and Zn concentrations, and possibly slightly elevated Cd, Co and Ni.
- Waste rock leachate water quality is presented annually in the Annual Review and has been monitored at Cadia since 1998. In general, water quality has a pH that is neutral to slightly alkaline with elevated sulphates and metals, namely Co, Mn and Zn, which generally supports the results from the column leach project.

Waste Rock Classification

Waste rock at Cadia is classified into three different waste types depending on its mineralisation and acid generating potential. Each waste type is colour-coded for simplicity during day-to-day operations. The different classifications represent NAF waste ('Blue'), mineralised waste ('Green') and PAF ('Pink') waste.

Waste rock for the Cadia Hill Pit was sampled and classified on the basis of the sulphur content. Based on documented test-work, all material with sulphur content above 0.5% S was characterised as PAF. As from 01/01/2003, the 0.5% S cut-off to define PAF was based on the estimated grade of each volume block of 12.5m x 12.5 m x 15m (bench height). The sulphur grade for each block was estimated by spatial modelling of the waste material, using a statistical process known as ordinary kriging. Ordinary kriging uses a weighted assay estimate based on a graph known as the geostatistical semi-variogram. All blocks with an estimated sulphur grade above 0.5% S were classified as PAF. Additionally, where there was a demonstrable geological cause, e.g. a "g-fault" being identified, material with a lower sulphur cut-off may have been classified as PAF.

Following geochemical characterisation of Cadia East waste rock, the majority of which is sourced from Ordovician units, it was deemed, on a conservative basis and to simplify waste rock handling, that all waste rock extracted from Cadia East would be classified as PAF.

Managing AMD Risks

A detailed hydrogeochemical modelling study has been undertaken by O'kane Consultants (O'kane 2010) (as presented in the 2009-10 AEMR). The study assessed the risk of water and land contamination from waste rock dump leachate. The study found that key metal concentrations of concern were Co, Mn and Zn. The study determined the required water quality (based on ANZECC Water Quality Guidelines) to enable release back to natural systems and worked backwards to design a cover system for the South Waste Rock Dump that would meet water quality release criteria.

In addition to the hydrogeochemical modelling, Cadia is also investigating further options to improve water quality of mine leachate, through the use of constructed wetlands. A Pre-feasibility assessment into constructed wetlands has been completed, with these projects being progressive in nature with future studies determined by the outcomes of previous work. It is expected that the combination of the cover design and a constructed wetland will improve leachate water quality to the point where it may be released to the wider environment and meet the required site-specific water quality trigger values (Water Management Plan (CHPL 2023)). Should additional mine leachate controls be required, these will be determined by 2027 following the completion of constructed wetland field trials (refer to **Section** Error! Reference source not found.)

WRD Cover Design

The proposed WRD cover design is designed to minimise water ingress into PAF waste. This is achieved by installing low-permeability seals over the PAF waste. The cover design has been developed following hydrogeological modelling of the SWRD), which was undertaken by O'kane Consultants (O'kane 2010). The following is a summary of the proposed cover design.

The cover system configuration described below has been applied to the rehabilitated areas of the SWRD containing pink (PAF) waste and will continue to be applied to the remainder of the PAF material. NAF waste areas are shaped to the final profile and have 20 cm of topsoil placed as the primary growth medium.

At the intersection of PAF / NAF areas, the low permeability seal will extend 10 m beyond the basal footprint of the PAF waste area (i.e. into the NAF material so that the seal completely covers and overlaps PAF waste).

- Top Surface of the SWRD (PAF (Pink) Waste): At the time of preparing this RMP, the remaining 'yellow' (low grade) mineralised material has been removed from the SWRD and processed with ongoing removal and processing of the 'green' (low grade) mineralised material on an opportunistic basis. The remaining flat / plateau portions of the PAF waste will be compacted (for example using a compacting impact roller), followed by placement of a low permeability seal (0.5m of compacted clay or high-density polyethylene (HDPE) liner), 2m fresh (NAF) waste rock and 0.2 m topsoil. Waste rock compaction will be based on a Cadia waste rock compaction trial (undertaken as part of the SWRD Hydrogeological modelling) and has a target saturated permeability (ksat) of 4 x 10-5 cm/s. Permeability is to be confirmed using a field permeameter.
- SWRD Batters (PAF): The batters will have a 3:1 surface gradient. At this gradient, it is considered that it would be challenging to meet the above noted permeability criteria for the compacted waste rock. Therefore, a cover option consisting of 0.5 m compacted clay, 2 m fresh (NAF) waste rock and 0.2 m topsoil will be placed on the batters. If insufficient clay resources are available, a synthetic low-permeability seal will be installed such as geosynthetic clay liner laminate (GCLL) or HDPE etc. Alternatively, the batter angle may be modified to achieve the required permeability using compacted waste rock. The specifications for the compacted clay

layer are to achieve permeability less than 1 x 10-5 cm/s. Permeability is to be confirmed using a field permeameter.

- SWRD Benches: Between the batter slopes, 15 to 20 m wide benches are planned for the final landform, which will be backsloped with a surface gradient of approximately 2%, to reduce the risk of erosion on the batters. These benches will then serve as surface water drainage channels along contours for surface runoff off the batter slopes. The configuration of these benches increases the potential of ponding on these benches, thus increasing the potential for percolation into the underlying waste rock.
- It is proposed that the benches are covered using GCLL or HDPE liners to limit net percolation rates to the greatest extent possible on the benches, followed by 2 m fresh (NAF) waste rock and 0.2 m topsoil. The synthetic liner will be placed so there is overlap of the adjacent batter berms and batter toes. Liners will be 'keyed into' or 'overlayed' by compacted clay layers.
- SWRD Interaction with the Northern Tailings Storage Facility: A clay capping layer has been installed along the southern face of the South Waste Rock Dump to minimise the potential for tailings seepage into the SWRD. The clay layer was keyed into the in-situ ground surface at the toe of the dump. Permeability of the compacted clay layer was verified as meeting the required cover design permeability requirements.

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

During the Active Mining Phase, the NTSF and STSF will continue to be constructed and operated in accordance with all relevant statutory and industry requirements.

Vegetation establishment is proposed on the surface of the NTSF and STSF with the final land use of Native Ecosystem (conservation). Failure to establish vegetation on the dams would result in an erosive (wind and water) landform that does not meet the key objective of the landform being safe, stable, non-polluting and sustainable. Risks to vegetation success (establishment, succession and sustainability) may arise from:

- A toxic or unsuitable substrate (i.e. tailings)
- Changing substrate chemistry over time
- Bio-physical parameters of tailings that inhibit, stunt or restrict vegetation success.

The Cadia Hill EIS (CHPL 1995), Ridgeway EIS (CHPL 2000c) and the Cadia East EA (CHPL 2009) provide detailed assessment of the geochemical composition of tailings. In summary:

- Tailings are expected to be NAF over the life of the operations.
- Tailings contain a range of elements including aluminium, arsenic, copper, potassium, molybdenum, silver, selenium, sodium and zinc. Of these elements, arsenic and molybdenum can be elevated above background levels.
- Multi-element scans undertaken as part of the Ridgeway EIS (CHPL 2000c) indicated that, under test pH conditions, none of the assayed elements (including silver, copper and selenium) are readily soluble.

Cadia will undertake periodic sampling (5 yearly) and analysis of tailings material to ensure that the composition of tailings remains similar to previous assessments and remains suitable for the final land use and proposed rehabilitation strategy.

Between 2004 and 2012, extensive research was conducted to optimise rehabilitation methods for TSF surface areas (also refer to **Section 9**). Information gained from the studies ultimately led to the proposed rehabilitation methodology as stated in the Cadia East EA (CHPL 2009), Rehabilitation Strategy (Newmont 2025a), previous Mining Operations Plans (CHPL 2021) and now included in this RMP. Key findings of the studies included:

- Vegetation was successfully established on the tailings dam surface with the use of topsoil or biosolids.
- Established vegetation included pastures and native vegetation communities, which align with Cadia's post mining land uses as stated in this RMP.
- Vegetation was assessed as being consistent with reference / analogue sites (with the exception of parameters that required additional time for development).
- Vegetation persisted and grew for the entirety of the trial, through severe drought conditions and demonstrated seeding, recruitment and sustained growth (Figure 9).
- Attempts to establish vegetation direct on tailings (i.e. with no topsoil or biosolids) resulted in poor vegetation cover compared to other treatments (topsoil or biosolids). However, with increased and regular fertility, vegetation could be established and sustained.
- There was no lateral capping of roots. Roots from trees, shrubs and grasses penetrated well into the tailings, beyond 2.5m depth for woodland species (Figure 10).
- Vegetation tissue samples indicated elevated molybdenum levels in legumes species (sub clover). Elevated levels can pose a health risk to cattle (in the absorption of copper).
- Salinity levels identified as part of the trial (above agricultural industry guidelines) do not affect plant establishment or growth as chemical composition differs from dryland salinity values (from where industry guidelines were established).

The trial confirmed the following methodology and TSF cover design.

- TSFs will be capped with approximately 200 mm of topsoil.
- Decant areas (areas of lowest water recovery and the last in the TSF to dry) may require a capping of benign waste rock to facilitate machinery access, followed by application of 200 mm of topsoil.
- The surface will be revegetated to create native vegetation communities with grazing to be excluded.

Figure 9. Tailings Revegetation Trial

Figure 10. Tailings Revegetation Trial – Root Penetration

Southern Tailings Storage Facility Seepage / Leachate

Following the decommissioning and rehabilitation of the STSF, the tailings profile will commence drying and therefore less seepage is expected to report to the STSF Seepage Collection Pond. Following the progressive de-saturation of the tailings material, water quality reporting to the collection pond is expected to be in the range of naturally occurring groundwater for electrical conductivity and contain lower concentrations of metals than naturally occurring groundwater (CHPL 2000c (Appendix B4.5)). There is a risk these targets will not be achieved if water quality within the collection pond consistently fails to achieve site-specific guideline values in the lead-up to closure. For this reason, if water quality is found to be above the site-specific guideline values[5] (at CAWS63) for 3 consecutive monthly samples during the last 2 years of mining/deposition (nominally 2029-2031), a STSF closure contingency plan will be developed to either improve water quality, intercept and return contaminated waters or for the long-term containment and management of water. This contingency plan will be implemented in the event that water quality within the STSF Seepage Collection Pond continues to exceed approved site-specific water quality targets post-rehabilitation.

During the active mining phase, water from the STSF seepage collection pond would continue to be sampled and analysed against the respective site-specific water quality guideline values (Water Management Plan (CHPL 2019)) and presented annually in the Annual Review. During operations, seepage water will continue to be captured and returned for re-use.

Pit Tailings Storage Facility Seepage / Leachate

To manage potential seepage from the PTSF into the surrounding environment, Cadia is in the process of constructing seepage mitigation and developing a TARP for approaching 694m AHD water level. To ensure the risk is mitigated, weekly water level monitoring is conducted, with no

[5] site specific guideline values for the STSF seepage collection pond are contained in the Cadia Water Management Plan. Values are regularly reviewed and updated, as such the most recent approved values should be sourced from the Approved Water Management Plan available on the Cadia website (www.cadiavalley.com.au)

tailings deposition is to occur in the PTSF past 694m AHD until risk mitigation measures are confirmed and in place.

J. Erosion and Sediment Control

During the active mining phase, a number of measures are in place to prevent or minimise erosion sedimentation impacts that may impact on rehabilitation success. During mining operations, the Water Management Plan (CHPL 2019) provides protection for surface waters through the design, construction and maintenance of sediment control structures to capture and contain specified storm events from disturbed areas. These ponds will remain in place during rehabilitation closure activities and may remain post closure for future landholder use and aquatic habitat.

The following additional broad measures are implemented during active mining operations to prevent, reduce and manage soil erosion at Cadia:

- Minimise disturbance during all phases and restrict access to undisturbed areas.
- Sequence construction activities such that sediment control works are completed early in the construction phase.
- Divert clean water around disturbance areas.
- Minimise compaction during soil excavation and movement.
- Use of erosion control features (e.g. silt fences and temporary sediment traps, diversion banks, channels and rip-rap structures) to minimise sediment migration, divert surface water around disturbed areas and control runoff velocity.
- Construct collection drains, diversion drains and culverts to control surface runoff from access roads; and
- The site proposes to undertake regular, documented inspections of rehabilitation areas, with observations of erosion recorded and scheduled for repair works.

Direct And Indirect Rehabilitation Risks to Creeks and Drainage Lines on Site

Examples of the rehabilitation risks to creeks and drainage lines on site include (but are not limited to) the following:

- Poorly designed or constructed creeks / drainage lines (including inappropriate construction materials);
- Physical damage from plant or equipment;
- Erosion damage from significant rainfall events (including during the construction of these features); and
- Failure of vegetation designed to assist in stabilising these areas.

To control these risks, the rehabilitation engineering controls identified in Section 6.2.3 (B., C., & E.) & Section 6.2.4 (Erosion Control) are adhered to. Ongoing annual inspections of water management structures (refer to Section 8.2 Other Inspection and Monitoring Programs) shall be conducted.

The risk to vegetation establishment and ongoing growth is addressed through the planting of the appropriate species (see B. Flora), with ongoing monitoring conducted to track the vegetation establishment and growth. If remedial actions are required, then these actions will be completed within 12 months.

As part of the EIP process any impacts to surface water (including creeks and drainage lines on site) during operations (including rehabilitation works) is considered. Appropriate controls, including this described in J. Erosion and Sediment Control are then put in place to minimise risk to surface water. This is applicable to any rehabilitation activities that may be performed on site

and will ensure any project is aware of the risk that may be present to creeks and drainage lines on site.

K. Ongoing Management of Biological Resources for Use in Rehabilitation

Scheduling and execution of any on-ground remedial activities will be included in Annual Rehabilitation Report and Forward Program. Refer to the following sections for information regarding the management of biological resources:

- Topsoil – refer to Section 6.2.1 A. Soils and Materials.
- Habitat Salvage – refer to Section 6.2.1 B. Flora & C. Fauna.

L. Mine Subsidence

The Ridgeway and Cadia East Mines have both been approved on the basis of creating subsidence zones which will be retained post mining. During the active mining phase, once the subsidence becomes 'active' these areas are managed as permanent exclusion zones with a bund, trench and fence erected to prevent unauthorised access. Cadia will also create a native vegetation screen around the perimeter of the subsidence zones to screen the void from public vantage areas. Some salvage of topsoil and habitat resources was undertaken from the Cadia East subsidence zone prior to breakthrough occurring.

Ridgeway subsidence body water (groundwater sink) is expected to eventually be saline (dissolved metals and salts) in the vicinity of 5,000mg/L (350 years post closure). The Cadia East subsidence zone and Cadia Hill Pit become groundwater sinks with water quality expected to be saline in nature.

Groundwater monitoring is conducted in the vicinity of both the Ridgeway and Cadia East subsidence zones to measure potential drawdown of groundwater resources. To date any identified drawdown remains in close proximity to the subsidence zone. The Cadia East project approval allows for the establishment of compensatory water supplies should impacts from the subsidence zones be observed and verified.

M. Management of Potential Cultural and Heritage Issues

There are no material indigenous / cultural heritage features at Cadia that require special consideration post mining. Any issues that may arise will be guided by consultation with the Registered Aboriginal Parties (RAPs) as required and incorporated into future revisions of this RMP.

Significant historical heritage relics are located at Cadia including State Listed Heritage structures (Cornish Engine House and Chimney) which are managed by Cadia as per the approved Historical Heritage Management Plan. In addition to the state listed heritage area, significant 'heritage landscapes' exist in the vicinity of the Ridgeway infrastructure areas. During the active mining phase these areas are protected from disturbance through the Environmental Impact Permit process. A range of maintenance activities are undertaken on the heritage structures to maintain their integrity and significance. Cadia also arranges and undertakes archaeological investigations and recording to further our knowledge regarding the strong mining history in the area. An interpretive heritage website is also maintained.

At mine closure, it is proposed that Cadia would negotiate (with a view to develop formal agreements) with a number of heritage management bodies, such as local councils, the NSW Heritage Office etc. to manage the areas for conservation, interpretation and controlled public access.

N. Exploration Activities

During the active mining phase:

- Any unrehabilitated drill pads / collars will be rehabilitated as per industry standards.

- Progressive disposal of core in accordance with the conditions of EPL5590

O. Controlling Access

Access to Cadia is restricted and access is prevented by farm style fencing. To ensure access is controlled and maintained, an annual , with ad-hoc inspections of boundary fencing is conducted.

Any issues identified will have temporary measures implemented pending full repair or replacement of fencing.

6.1.2 Decommissioning

A. Site Security

During the decommissioning phase, site security will remain as per current operations (active mining phase). The perimeter of the Cadia mining operations area will remain fenced, with active security controls at entrance points and regular patrols of security infrastructure, namely boundary fences and remote access gates.

To manage the safety of mine personnel, 'exclusion fencing' will be used to limit unauthorised entry into demolition and other high-risk sites.

B. Infrastructure to be Removed or Demolished

The majority of built infrastructure will be isolated, demolished and removed. **Table 15** provides a general description of the site infrastructure to be removed.

Table 15 Items to be Demolished / Removed

Ridgeway	Cadia / Ore Processing
Cadia Training Centre	Crushers (including vertimills & HPGR)
Ridgeway Change House	Conveyors (including transfer points)
Ridgeway Office complex	Electrical substations and associated infrastructure.
Sandvik workshop	Ball Mills / SAG Mill (including sheds)
Ridgeway Heavy Vehicle workshop	Flotation cells (including sheds)
Ridgeway Core Cutting Sheds (2)	Cadia electrical and mechanical workshop
Ridgway vent vans / emergency winder	Cadia Store
Sheds at Ridgeway Portal	All tanks, pipes, pumps, electrical
	Tailings Thickeners (3)
Cadia East	SAOC Building
Cadia East Administration building	Administration building (including engineering, Access Control etc)
Cadia East Tagboard shed	Compressed air shed
Cadia East vent vans	Cadia East Muster, change house, laundry
Met Lab (New)	Heavy Vehicle / light vehicle workshops including tyre bay.
Cadia Warehouse	BP lube shed and light vehicle fuel bay
Cadia East Workshop	**Ancillary**
	Booster Pump Station
	Items and equipment in laydown yards including the gravel hardstand area.

Ridgeway	Cadia / Ore Processing
	Roads (including bitumen, haul roads. Light vehicle roads and tracks) (with the exception of those identified for retention).
	Building foundations / concrete pads etc

Demolition will be undertaken progressively, leaving any required water management infrastructure in place (such as the process water pond, site runoff pond and sediment control structures), the purpose of which is to continue to capture and contain sediment (and prevent discharge of contaminated waters) while vegetation is established on the rehabilitated landforms.

Demolition will be undertaken in accordance with *AS 2601-2001: The Demolition of Structures.* The process of demolition will include:

- Undertake a risk assessment of individual buildings, plant and infrastructure to be decommissioned (to identify hazardous items, materials, structures).
- In the last few months of operations, use all reagents, chemicals and other consumables, leaving minimum residual material that needs to be disposed.
- Dispose of unused chemicals, reagents and consumables (as per the product label and safety data sheet).
- Flush and clean all pipelines with clean water (waters contained and treated or removed as required).
- Temporary fencing of demolition area.
- Structural assessment of structures prior to demolition to identify any relevant hazards.
- Isolation of energy sources (electricity, water, gas, compressed air) and 'test for dead'.
- Removal of any hazardous materials or items such as radiation sources, asbestos etc.
- Undertake pre-clearance surveys for any native fauna that may be utilising the infrastructure (such as bats in underground workings).
- Removal of any re-usable or saleable items and materials
- Pressure cleaning (if required) to remove any built-up materials, for example copper concentrate, chemical residue etc.
- Demolition of structure or plant:
    - Materials sorted to maximise recycling.
    - All materials assessed for contaminants and verified as clean prior to leaving site (by a suitably qualified EPA accredited auditor).
    - Wastes disposed of on site, where permitted (as per EPL 5590) or to local licenced landfill.

C. Buildings, Structures and Fixed Plant to be Retained

A number of items are proposed to be retained for final land uses. Items are summarised in **Table 16**.

Table 16. Items to be Retained

Ridgeway	Ore Processing
Ridgeway Emergency Response Shed	ERO Shed
Ridgeway Store (Shed)	UC Shed
Ridgeway Light Vehicle Workshop	**Ancillary**
Ridgeway Environment Shed	Communication (mobile phone / data) towers

Ridgeway Core Assessment Shed (1)	Sediment dams
Cadia East	Water storage dam (Cadiangullong Dam)
SAG mill motor storage sheds	Water management infrastructure
	Electricity supply lines
	Primary site access roads / selected internal roads for access and site maintenance.
	Heritage items including: ➢ Cornish Engine House, Crusher, Chimney and SHR779 landscape ➢ Sheds, headframes, building / structure foundations etc ➢ Heritage landscapes

The Cadia Hill EIS and the Cadia Rehabilitation Strategy (Newmont 2025a) propose that site water infrastructure is to be retained to contribute towards a regional water reticulation network. However, approved under Mod 15, the Upper Rodds Creek Dam will be decommissioned post-closure to reduce the risk of overflow to the TSFs. Cadiangullong Dam, will be retained and selected site water infrastructure including the Belubula River Pipeline, Belubula River and Happy Mountain pump stations, pipeline infrastructure to Orange (treated effluent pipeline) and the pipelines to Blayney (Concentrate and return water pipelines). It is proposed that 5 years prior to the cessation of mining, negotiations are to commence regarding the infrastructure to be retained and how this is to be owned and operated after mine closure. Formal agreements are to be finalised 3 years prior to the cessation of mining, as shown in the life of mine rehabilitation schedule (refer to **Section 6.1**).

The Cadia Rehabilitation Strategy (Newmont 2025a) also proposes that opportunities may exist in the future for post-mining industrial uses of the mine site and existing infrastructure. As such, this section of the RMP and identified infrastructure for retention will be revised and updated as options and opportunities are assessed.

For any structures or plant identified for retention, a suitably qualified engineer will undertake an assessment to determine that the item is fit for purpose and there are no residual liabilities for future land uses / landowners.

D. Management of Carbonaceous / Contaminated Material

Cadia maintains a site Contaminated Lands Register that identifies areas that may pose a risk of contaminated soils or materials.

The process for managing contaminated lands will be generally conducted as per EPA procedures and guidelines.

- Using the Cadia Contaminated Lands Register as a base, conduct a formal contaminated land assessment of 'at risk' areas.
- Undertake additional surface survey of other potential risk areas that may not have been identified in the contaminated lands register. Conduct a formal contaminated land assessment of 'at risk' areas.
- All contaminated land assessments must be undertaken under the supervision of an EPA Accredited Site Auditor.
- Develop a Remedial Action Plan to manage the contaminated lands risk.
- Develop assessment criteria using the NEPM guidelines (NEPC (2013)) and processes that are suitable (from a risk perspective) for post-mining land uses.

- Implement the Remedial Action Plan through the removal or treatment of identified contaminated materials. Materials disposed of within PAF cells of the SWRD (pending EPL 5590 variation) or at a licenced land fill as appropriate.
- Undertake validation sampling to ensure sufficient material has been excavated.
- Replace with clean NAF materials, sourced from the SWRD.
- Produce validation report(s), verifying that the Remedial Action Plan has been correctly implemented and there are no residual liabilities for future landowners or risk to future land uses.
- If required, any Environmental Management Plans relating to residual contamination are itemised on the relevant land title.

E. Hazardous Materials Management

There are several known 'hazardous materials' risks that are known to occur at Cadia including:

- Radiation devices (documented in a Radiation Devices Register)
- Asbestos (documented in an Asbestos Register)
- Hazardous Chemicals (documented in ChemAlert Register)
- Explosives.

As described in Infrastructure to be Removed or Demolished, items will be identified and removed prior to demolition. All hazardous materials will be removed and disposed of as per industry and legal requirements. Documented records will be kept of processes undertaken and waste tracking for disposal.

F. Underground Infrastructure

Table 17 describes the decommissioning and closure of underground mine workings at the Ridgeway and Cadia East mines.

Table 17. Closure of Underground Mining Operations

Infrastructure	Closure	Proposed Timing
Underground infrastructure	➢ All contamination sources (containing chemicals, hydrocarbons or hazardous materials) are removed. ➢ All recyclable materials, equipment identified for sale or re-use is removed. ➢ Any inert waste products are left in situ.	To be confirmed as part of detailed closure planning
Energy Sources	➢ Isolation of energy sources (electrical, water, compressed air etc), terminate connections. ➢ Mine dewatering ceases. ➢ Mine ventilation is turned off.	To be confirmed as part of detailed closure planning
Surface infrastructure including: Vent raises / emergency winders / Cadia East slickline etc.	➢ Geotechnical assessment of vent-raise areas to allow the design (risk based) of capping requirements for vent raises (by a certified Structural Engineer). ➢ Work area fenced to prevent unauthorised access. ➢ Vent raises will have any surface infrastructure removed followed by the placement of a large (oversize) concrete pad over the shaft (pending above geotechnical assessment and engineer design). Concrete pad to be buried to allow placement of topsoil and revegetation (grasses). ➢ QA / QC undertaken by a qualified structural engineer and signed off.	To be confirmed as part of detailed closure planning

Infrastructure	Closure	Proposed Timing
	➢ Geotechnical, Engineer design, QA/QC and verification reports produced and kept in perpetuity. ➢ Area identified by site survey. ➢ Permanent drainage berms and controls installed to prevent water runoff from entering void. ➢ Area may be permanently fenced as an exclusion area (pending above geotechnical assessment and engineer design).	
Portals (4)	➢ Geotechnical assessment of portal areas to allow the design (risk based) of sealing requirements (by a certified Structural Engineer). ➢ Portals will have any surface infrastructure removed followed the construction of a concrete seal (pending above geotechnical assessment and engineer design). ➢ QA / QC undertaken by a qualified structural engineer and signed off. Area identified by site survey. ➢ Portal cuttings are backfilled with NAF materials and shaped to blend with surrounding topography. ➢ Permanent drainage berms and controls installed to prevent water runoff from entering area. ➢ Topsoiled and seeded to the final land use of agriculture / grazing. ➢ Groundwater bores retained to monitor groundwater level rises and water quality in the underground workings. ➢ Geotechnical Engineer design, QA/QC and verification reports kept in perpetuity.	To be confirmed as part of detailed closure planning
Subsidence Areas	➢ Subsidence areas will remain permanent exclusion zones (approved as part of project approval). Exclusion barriers will consist of an earthen bund, trench and security fence designed to prevent unauthorised access. ➢ Subsidence areas will be surveyed and listed on the land title as permanent exclusion zones.	To be confirmed as part of detailed closure planning

6.1.3 Landform Establishment

A. Water Management Infrastructure

A number of water management infrastructure areas have been identified for retention including:

- Cadiangullong Dam;
- Belubula River pumping and pipeline infrastructure;
- Orange Effluent pipelines;
- Blayney Concentrate and Return Water Pipelines; and
- Sediment dams (to be retained to manage sedimentation/runoff during landform establishment, growth medium development, and ecosystem and land use establishment phases, followed by retention as habitat and farm dams).

Selected water management infrastructure (pumps and pipes) would be retained as 'operational' during demolition and rehabilitation works to manage risks associated with the release of contaminated/turbid waters from site.

Site Runoff Pond

The site runoff pond will be retained and is critical to managing and containing risks (contaminated waters) from the demolition of the ore processing facilities.

Following the demolition ore processing facilities, the completion of related contamination and remediation works and rehabilitation of the area, the site runoff pond will:

- Have sediment removed – to be placed within the PAF cell of the SWRD
- Undertake contaminated land assessments, following the general process as described in Section 6.2.2 **D. Management of Carbonaceous / Contaminated Material** including remediation and validation sampling etc.
- Have an engineer's assessment undertaken to verify the integrity of the dam embankment for long-term retention, and
- Be retained as a future farm dam and capture sediment from establishing rehabilitated landforms.

Process Water Pond

The process water pond will be retained and is critical to managing and containing risks from the demolition (capture and containment of contaminated waters) of the ore processing facilities.

Following the demolition of the ore processing facilities and the completion of related contamination and remediation works, the process water pond will:

- Have an engineer's assessment undertaken to verify the integrity of the dam embankment (on the assumption of having the HDPE liner removed) for long-term retention.
- Have sediment removed – placed within the PAF cell of the SWRD.
- Have the HDPE liner removed and disposed off site (or within the SWRD pending relevant approval).
- Undertake contaminated land assessments, following the general process as described in Section 6.2.2 **D. Management of Carbonaceous / Contaminated Material** including remediation and validation sampling etc.
- Be retained as a future farm dam and capture sediment from establishing rehabilitated landforms.

Constructed Wetlands

Cadia proposes to construct a number of wetlands to enable the improvement of water quality prior to release to the natural environment. Locations include the western side of the NTSF, STSF, NWRD and SWRD (refer to **Figure 5**) to allow the management of sediment and improvement in water quality prior to release to Cadiangullong Creek (pending water quality assessments and verification of wetland performance) (refer to **PART 9 – REHABILITATION RESEARCH, MODELLING AND TRIALS**).

Wetlands will be designed and constructed during the landform establishment phase of the SWRD, NTSF and STSF.

B. Final Landform Construction: General Requirements

Cadia waste rock, which forms the majority of final landforms that may be at risk from landform instability is defined as highly competent with low potential for degradation or loss of integrity over time. Topsoils are noted to be of high quality and pose a low risk of slaking or dispersion (CHPL 1995).

Risks of landform instability mainly arise from poor drainage and runoff control, where these factors can erode, undermine or saturate portions of the landform.

General management measures for erosion are contained in Section 6.2.1 J. Erosion and Sediment Control.

Management measures for Geochemical related issues are contained in Section 6.2.1 F. Underground Infrastructure.

General requirements for landform establishment at Cadia include:

- Maximum slope of 1:3 (18º) on all constructed landforms including waste rock dump batters, TSF embankments etc.
- Shaping of minor landforms to match existing landforms in the Cadia district area.
- Landform aspect will be considered to address sustainable revegetation outcomes.
- Formal reverse graded berms (SWRD), controlled (rock lined / armoured) drainage lines and drop structures (designed for defined rainfall events (5% ARI)) to safely manage surface waters and reduce erosion risks.
- Drainage plans to consider the risks of accumulation of surface water flows and where possible disperse surface water flows to safe catchments.
- Rock lined drains and drop structures are underlain with geotextile fabric and overlain with waste rock – nominal diameter >300mm.
- Energy dispersion / sediment ponds are located at the inlet and outlet of drop structures and maintained to be effective until target ground cover (completion criteria) are met.
- Diversion drains direct 'clean' runoff around disturbed areas (such as around rehabilitated portals)

Water management concepts for the final landform would be designed in accordance with the ANCOLD guidelines. As part of the requirements associated with Section 240 Notice NTCE0012411, Cadia has completed an assessment that sets out the design of modifications to the rehabilitated landform and surface water management structures on the NWRD and SWRD to address instability and erosion risks (with progress discussed below).

Any remedial and recommendations actions will be reviewed and incorporated into future Annual Rehabilitation Reports and Forward Programs.

C. Final Landform Construction: Reject Emplacement Areas and Tailings Dams

Section 240 Notices

To address the requirements of the Section 240 Notices (NTCE0012411, NTCE0012413 and NTCE0017029), Cadia has completed the following actions:

- Completion of an assessment that sets out the design of modifications to the rehabilitated landform and surface water management structures on the North Waste Rock Dump (NWRD and the South Waste Rock Dump (SWRD) to address instability and erosion risks.

  Modelling and designs prepared by WSP and presented in reports *PS200668-WSP-AUS-NTL-MIN-REP-00001-A1 (*WSP, 2023a) and *PS205778-WSP-AUS-NCS-MIN-REP-0001 RevB* (WSP, 2023b)
- Completion and submission of the Annual Rehabilitation Report (28 September 2023)
- Completion and submission of the Forward Program (27 September 2023)
- Completion of the Rehabilitation Risk Assessment (14 November 2023)
- Completion of a detailed soil and subsoil assessment across to entire NWRD and portions of the SWRD (MineSoils, 2024). This assessment was undertaken by a Certified Practicing Soil Scientist (MineSoils), with the analytical data and recommendations used to inform future rehabilitation activities.
- Completion of the SWRD and NWRD Rehabilitation Enhancement Strategy (Umwelt, 2025).

Implementation of the remedial surface water management system works as shown in the mitigation designs (WSP, 2023a) have been completed as of November 2025. The remedial works were verified by the designer by undertaking a review of construction QAQC data, as-built survey, site inspections and re-running the flow model (Lisflood). The remedial drainage system was confirmed to meet the design intent as described in the design report.

North Waste Rock Dump (NWRD)

At the time of preparing this RMP, the NWRD landform construction has been completed. As such any ongoing work associated with the NWRD landform relates to the inspection and repair of any areas of erosion (during the Landform Establishment Phase).

As part of the assessment associated with section 240 notice NTCE0012411, remedial civil works were completed on the NWRD landform (remedial work to surface water management structures and some erosion features) during 2025. The progress and outcomes of this work will be discussed in the FY 2026 Annual Rehabilitation Report.

In January 2022, O'kane Consultants undertook Landform Evolution Modelling (LEM) using the SIBERIA model to determine erosion risk across the WRDs. The scenarios modelled were based on 10, 100 and 1000 year timeframes, under the currently vegetated condition and a failed vegetation condition. Overall, the modelling showed low risk erosion conditions in the currently vegetated scenario for both the NWRD and the SWRD, with only minor erosion features forming. Under failed vegetation conditions, a moderate erosion risk would exist for the SWRD in the 1000 year model, and in all three of the NWRD periods.

Surface drainage from the NWRD reports to the west of the landform. It is proposed that a constructed wetland will be built in the vicinity of (the southern extent) the Cadia Extended pit prior to controlled discharge (pending water quality) into Cadiangullong Creek (refer to Section 6.2.3 **A. Water Management Infrastructure**). The wetland will be constructed while undertaking landform establishment works associated with Cadia Extended Pit.

South Waste Rock Dump (SWRD)

The SWRD was approved as part of the initial Cadia Hill development consent in 1996 and was designed and constructed to be rehabilitated to the traditional 'batter and berm' design (CHPL 1995).

As part of the assessment associated with section 240 notice NTCE0012411, remedial civil works were completed in 2024/2025. Progress and outcomes

Surface drainage from the SWRD reports to a number of different areas to avoid the accumulation of large volumes of water to a single control point. Discharge areas include:

- Rodds Creek Dam.
- Northern Tailings Storage Facility.
- Cadia East Subsidence Zone.
- Northern Leachate Pond (NLP) (proposed Constructed Wetland).
- Southern Leachate Pond (SLP) (proposed Constructed Wetland).
- Process Water Pond / Site runoff pond (proposed Constructed Wetland).

It is proposed that three constructed wetlands will be built to the west of Site Runoff Pond, NLP and SLP prior to controlled discharge (pending water quality) to Cadiangullong Creek (refer to **A. Water Management Infrastructure** and **Figure 5)**).

For PAF sections of the SWRD, the landform establishment process is as follows.

- Hydrology assessment to design the number and location of drainage/drop structures and ultimate discharge location(s) of surface waters (5% ARI).

- Shaping of batters to a maximum gradient of 1:3 (18 degrees).
- Reverse-graded berms & formal drop structures to manage surface waters.
- 0.5 m compacted clay on batters (low-permeability seal) (target permeability < 1 x 10^{-5} cm/s).
- Compacted waste rock on plateaus (low-permeability seal) (target permeability < 4 x 10^{-5} cm/s).
- Compacted clay over PAF on plateaus (low-permeability seal) (target permeability < 1 x 10^{-5} cm/s).
- HDPE Liner on reverse graded berms (low-permeability seal).
- 2 m NAF Waste rock (growth medium) over all low-permeability seals.
- 0.2 m topsoil over all NAF waste rock.
- Cover performance instrumentation installed.

The process for shaping and rehabilitation of NAF portions of the SWRD is described below:

- Hydrology assessment to design the number and location of drainage / drop structures and ultimate discharge location(s) of surface waters (5% ARI).
- Shaping of batters to a maximum gradient of 1:3 (18 degrees).
- Reverse-graded berms & formal drop structures to manage surface waters.
- 0.2 m topsoil.

Cadia Extended

Cadia Extended was a small satellite pit that was mined in approximately 2005 and is located to the north of the existing PTSF. Following mining, the pit was backfilled (level with adjacent land) with predominantly NAF material and is currently used as a construction laydown area, carpark and site access road. During backfill operations a small amount of PAF material was placed at the very bottom of the pit. Groundwater monitoring and extraction activities (from within the pit shell) have verified that the pit contains groundwater, and all PAF material contained within it is submerged, eliminating potential for oxidation and acid generation.

In 2021, a strip adjacent to Cadiangullong Creek (formerly used as a perimeter road for the pit) was rehabilitated with a final land use of native ecosystem.

Landform establishment for Cadia Extended will involve the creation of a floodplain adjacent to Cadiangullong Creek sloping gradually to blend in with the existing natural slopes to the east of the pit shell. The maximum slope of the rehabilitated profile will be 1:4 and varied to replicate nearby natural landforms.

A surface hydrology plan will be developed prior to construction, where surface waters will be directed to Cadiangullong Creek via:

- Established drains and sediment ponds on the northern and or western side of the area; and
- A constructed wetland on the southern edge of the pit shell.

The proposed constructed wetland will also capture and treat waters from the Cadia Extended and the NWRD landforms.

SWRD Interaction with the Cadia East Subsidence Zone

Part of the current SWRD is in the area that will be affected by the predicted Cadia East zone of influence and subsidence zone. If left in its current location some of this material will fall into the subsidence zone where it would present a safety and rehabilitation issue along the edge of the subsidence zone, where waste rock and the subsidence zone meet. Rehabilitation equipment would not be able to safely operate in this area to stabilise and revegetate the waste dump batter. In order to manage this issue, Cadia will remove some of the waste rock that occurs in the predicted subsidence zone and/or zone of influence. This will enable shaping of batters to achieve a safe

and stable landform capable of supporting the final land use of native ecosystem (conservation). Some NAF waste rock may be left within the subsidence zone itself (where it would be allowed to fall into the void).

Northern and Southern Tailings Storage Facilities

TSF Embankments:

Following approval of Mod 14 the NTSF and STSF will be constructed to centre-line lift design with a nominal maximum outer embankment slope of 1:2. It is anticipated that with the inclusion of berms and drainage control structures, the overall slope will be approximately 1:3. The final landform will retain these dimensions.

Since the approval for Modification 14, further investigations in support of the detailed engineering design have been undertaken which have identified that a gentler outer batter slope (i.e. buttressing) is required for the future downstream and centreline lifts. Gentler outer batter slopes are necessary to attain the required geotechnical stability, which involves placing additional material over the outer edge of the previous batter, resulting in a gentler slope and larger overall embankment footprint.

In the final stages of operation, the internal bund constructed on the STSF would be encapsulated by deposited tailings and would not form part of the final landform.

Rehabilitation will be undertaken as the new outer embankment is constructed and consist of 5m wide benches at 15 metre (vertical) intervals and the installation of formal drainage contours and rock lined drop structures. Batters will be constructed using a small bulldozer and or excavators during the construction phase of the embankments. As per **Section 2.2** embankments will be sown with native grass species (to avoid the risk of deep-rooted tree and shrub species affecting the clay core of the dam). Grazing will not be permitted on the embankments.

TSF Surface:

At the completion of deposition, the TSF surface will consist of a gently sloping plain (approximately 3-4%) from the embankment crest to the decant area.

At the completion of deposition, the final landform would be contoured to include topographic elevation changes to mimic natural drainage lines to manage runoff, minimise ponding and infiltration. The surface will be allowed to dry to allow safe access for rehabilitation activities. Rehabilitation will be undertaken progressively as the surface dries. Drainage channels will be constructed (using an excavator) parallel with the contour every 100 m and lined with a geotextile fabric and with NAF rock (up to 0.5m thick, composed of material of varying sizes including some fines). A capping of 200 mm of topsoil will be spread over the remaining areas.

Decant areas (dependent on rates of drying) may require a capping of benign (NAF) waste rock to facilitate machinery access, followed by capping with 200 mm of topsoil. This will be confirmed through cone penetration testing during the rehabilitation stage. Water management for the surface of the TSFs would comprise a series of low-gradient drainage lines to promote surface drainage towards the north-western corners of the TSFs and the permanent drainage structures which would be located at the embankments.

Drainage from the top surface of the TSFs down the embankment batters would be managed via engineered structures. These structures could involve, but are not necessarily restricted to, concrete channels, rock gabions or rock lined channels. The structures would direct the runoff to sediment stilling dams, and through a constructed wetland, prior to release into Cadiangullong Creek. The design of the engineered structures would be undertaken (by qualified engineers) following a final surface hydrology study and be able to accommodate a 5% ARI event. D. Final Construction: Final Voids, High Walls and Low Walls

Prior to the cessation of mining, a formal geotechnical assessment will be undertaken to identify any long-term risks related to the stability of high walls (including the Cadiangullong Creek Diversion) and PTSF walls etc. The study outcomes will inform updates to the proposed closure plans for these landforms as described below.

Final Voids:

There are no landform establishment phases associated with the Cadia East and the Ridgeway Subsidence zones, as they remain permanent exclusion zones for safety reasons.

Following the completion of deposition, the PTSF will form a pit lake in the remainder of the void. A bund (1.8m high) will be shaped around the northern, western and southern edges of the void (to join natural topography) followed by the construction of a fence around the entire perimeter (including high-wall section to the east of the void). Controlled access to the pit lake may be permitted to allow access for water sampling and or water recovery (via remaining pit haul roads). Existing water licences allow the extraction and use of pit void water and will be retained with the ownership of the land.

The PTSF water balance will be updated on a periodic basis to verify the final void water level.

Some shaping and ripping with a bulldozer may be required around the perimeters of voids to enable the establishment of vegetation screens.

High Walls:

High walls associated with the western boundaries of the Cadiangullong Creek diversion will remain. A bund and fence will be constructed above the highwall to restrict access. Since the creation of the highwalls, several volunteer eucalypt trees have propagated on the benches of the high walls. Cadia will supplement this outcome by aerial seeding eucalypt seed on high wall areas in an attempt to replicate the existing natural recruitment.

E. Construction of Creek / River Diversion Works

The Cadiangullong Creek diversion is approximately 2.4km long and is situated on the western edge of the PTSF and the Cadia Extended area. The western portion of the diversion consists of a highwall (refer to **D. Final Construction: Final Voids, High Walls and Low Walls**), while the eastern edge consists of a steep batter (estimated at 1:1) lined with large rock. Vegetation within the diversion (creek bed) is well established with reeds and native trees (some willows have established and will be controlled during the active mining phase). In approximately 2006, revegetation works were undertaken on the rock batter and consisted of the placement of topsoil and hydromulching with a native riparian species mix.

6.1.4 Growth Medium Development

As described in Section 6.2.1 **(**A. Soils and Materials**)**, topsoils in the vicinity of Cadia are high quality and low risk in terms of erosion and dispersive potential.

Characterisation of topsoil and subsoil will be undertaken at an appropriate scale across the site, prior to the re-handling of topsoil that has been stored onsite for a period of two years or more. Representative samples will be taken to characterise the nature of the soil material (e.g. sodicity and soil biota) to determine the potential limitations to rehabilitation and sustainable plant growth. The results will be used to determine specific ameliorant techniques that may be applied to the soil material to overcome potential limitations and enhance vegetation establishment.

Representative sampling of the shaped overburden surface will be undertaken to characterise the nature of the spoil materials across the site, allowing Cadia to determine potential limitations to

rehabilitation and sustainable plant growth. Results will be used to determine specific ameliorant techniques required for successful rehabilitation.

Topsoil Amelioration

Prior to the spreading of topsoil from stockpiles, Cadia will implement a sampling program to ensure that soils are suitable for the final land use and to design and implement any required amelioration to achieve stated completion criteria. Sample analysis parameters will be based on meeting established completion criteria, that of analogue sites and to assess risks such as soil sodicity, dispersiveness, erosion, acidity, nutrient imbalances, fertility, metals etc. Based on sample results, any soil ameliorants will be incorporated into topsoil during spreading to ensure soils are suitable for the final land use. Ameliorants may include:

- Commercial fertilisers (including speciality blends) to add general or specific nutrients (identified from soil tests).
    - Application technique: spread using commercial spreaders (aerial or ground spread) at the same time as seed spreading.
- Lime to alter soil pH:
    - Application technique: spread using commercial spreaders (ground).
- Gypsum to improve soil structure:
    - Application technique: spread using commercial spreaders (ground).
- Biochar to boost soil organic matter and nutrients, with rates of application determined from soil sampling and results of any research conducted. Applied selectively to poorer soils such as those stripped from beneath radiata pine plantation or for use in tailings dam rehabilitation pending further trials.
    - Application technique: Surface spread with bulldozer or commercial spreader and ripped / incorporated into soil.
    - Records of soil sample results and any applied ameliorants will be maintained as part of the rehabilitation QA procedures. Sampling and analysis of the ameliorated substrate will be undertaken as required (i.e. when triggered by poor rehabilitation performance) to validate the successful use of ameliorants.

Topsoil Handling

Topsoil handling practices would attempt to minimise the rehandling of soil material with the aim of retaining soil structure and include:

- Loading and spreading during optimal soil moisture conditions (A. Soils and Materials).
- Avoid trafficking over spread topsoil.
- Loading and hauling using excavator and truck.
- Where practicable, direct placement of topsoil onto rehabilitation landforms.

Erosion Control

The following measures will be implemented to reduce the risks of erosion during and immediately following the spreading of topsoil:

- Drainage control structures are designed and installed prior to the spreading of topsoil and are formally designed to contain and manage at least a 5% ARI event.
- All works are to be conducted in catchments that flow into sediment collection ponds, to reduce the risk of a discharge incident.
- Spreading of topsoil is to be undertaken, where possible, outside of summer storm seasons (December to February).
- Clean water is diverted around rehabilitation areas.

- Minimise compaction during soil excavation and movement, by avoiding driving on spread soils.
- Topsoil is to be ripped and seeded as soon as possible after spreading.
    - Deep ripping to a target depth of 400-600 mm is required for all rehabilitation areas subject to direct seeding. Ripping to this depth alleviates soil compaction and allows for the effective incorporation of ameliorants into the upper soil profile.
    - Ripping shall follow natural landscape contours to prevent water channeling and minimise erosion risk.
    - Ripping shall be undertaken when the soil is dry. Dry ripping improves fracturing efficiency, reduces clod formation and produces a more consistent seedbed.
    - Planting should only take place after the rip lines have experienced a few rainfall events, which settles the loose soil within the rip line, and provides the consistent root to soil connection, without the large air pockets found in freshly ripped soils. In the event of broad scale direct seeding, it is recommended that ripping be undertaken as rough and deep as allowable to ensure appropriate micro-climates and protection are provided for germinating seeds.
- Deep-rooted, perennial vegetation to be planted to provide long-term stabilisation of landforms.
- Cover crops are used in seed mixes to provide rapid soil stabilization.
- Use of temporary erosion control features (e.g. silt fences and temporary sediment traps, diversion banks, coir log bunding, channels and rip-rap structures) to minimise sediment migration.
- Use of hydromulching in select areas to provide rapid stabilisation of 'at risk' slopes and landforms.
- Regular inspection, recording of inspection findings, early intervention and repair of any erosion or failed rehabilitation areas (**Section 8.2 Other Inspection and Monitoring Programs**).

General Soil Preparation

General soil preparation includes:

- Spreading to a nominal 200 mm thickness for all landforms.
- Deep ripping at between 400-600mm, is to be undertaken, parallel with the contour immediately prior to seeding (to trap water and organic matter, promote infiltration etc until germination and establishment occurs). Seeding is to immediately follow ripping.
- For the SWRD and areas where NAF waste rock is the substrate, deep ripping, parallel with the contour to bring rock to the surface to assist in erosion and soil protection.
- Topsoil spreading will be undertaken with consideration of optimal seed germination and establishment conditions, namely in early Spring or Autumn.

Weed Control

Primary weed control during this phase consists of stripping any surface vegetation from topsoil stockpiles prior to using soil, to reduce the weed burden for native ecosystem areas. Topsoil stockpiles are to have weed management undertaken on a regular basis.

Weed control is to be implemented during the Growth Medium Establishment phase to ensure that invasive weeds do not establish in the rehabilitation and pose a long-term threat to the establishment of native vegetation.

Habitat Enhancement

During the Growth Medium Development phase, habitat structures salvaged and stored during the Active Mining phase are placed within the rehabilitation landscape. Placement of habitat structures will be done by the rehabilitation contractors and spaced at random locations within the rehabilitation area to provide habitat connectivity. The number of habitat structures placed will be dependent on the availability of salvaged resources. Habitat features may include:

- The placement of trees and logs that have been salvaged from clearance areas, including the re-standing of 'stags' (dead trees) with existing habitat features such as hollows and cracks.
- Piling of rocks to create 'rocky outcrops', which may provide habitat for reptiles.
- Energy dissipation ponds (established as part of formal drainage control structures, but also to create habitat for aquatic species) and water resources for fauna.

6.1.5 Ecosystem and Land Use Establishment

There are two primary vegetation types to be established on the final landform, each relating to the final land uses of native ecosystem (conservation) and agriculture (grazing). The methods used to establish these vegetation types are described below.

The existing site planning process for ecosystem and land use establishment works includes the Annual Rehabilitation Report, which documents progress, outcomes and lessons learned from the previous year, and the Forward Program, which outlines planned rehabilitation activities and scheduling for the upcoming reporting period.

Native Ecosystem

As described in the approved rehabilitation objectives and the Rehabilitation Strategy, where native ecosystems are described as the final land use, Cadia will be undertaking rehabilitation using species commensurate with native vegetation communities found in the local area.

Consideration has been given to landform aspect in the application of native vegetation communities to rehabilitation domains by:

- Using pre-disturbance vegetation communities as the target ecosystem.
- Considering connectivity with adjacent remnant native vegetation.
- Implementing topographical variation to mimic vegetation patterns in the Cadia area.

Revegetation species lists for these communities are provided below (**Table 18**) and are based on what was identified in the Cadia East Environmental Assessment (Flora Search, 2009). The rehabilitation seed mix to be used on site has underwent refinement in consultation with Cadia's ecologist and will include key indicator species for the vegetation community, collected from the local area.

Table 18. Indicative Native Ecosystem Revegetation Species List

Structure	Species - Community 1A	Species - Community 2A/2B	Species - Community 3A/3B
Trees	*Eucalyptus albens*	*Eucalyptus blakelyi*	*Eucalyptus dives*
	Eucalyptus blakelyi	*Eucalyptus bridgesiana*	*Eucalyptus goniocalyx*
	Eucalyptus bridgesiana	*Eucalyptus melliodora*	*Eucalyptus macrorhyncha*
	Eucalyptus melliodora	*Eucalyptus polyanthemos*	*Eucalyptus melliodora*
		Eucalyptus goniocalyx	*Eucalyptus polyanthemos*
Shrubs	*Acacia buxifolia*	*Acacia buxifolia*	*Acacia dealbata*
	Acacia dealbata	*Acacia dealbata*	*Acacia implexa*
	Acacia implexa	*Acacia implexa*	*Acacia paradoxa*
	Acacia paradoxa	*Acacia paradoxa*	*Acacia ulicifolia*
	Acacia ulicifolia	*Acacia ulicifolia*	*Acacia gunnii*
	Acacia gunnii	*Acacia gunnii*	*Acacia vestita*
	Acacia vestita	*Acacia vestita*	*Bursaria spinosa*
	Bursaria spinosa	*Bursaria spinosa*	*Hibbertia obtusifolia*#*
	Dodonaea viscosa	*Dodonaea viscosa*	*Dodonaea viscosa*
	Hibbertia obtusifolia#*	*Hibbertia obtusifolia*#*	*Indigofera australis*#
	Lissanthe strigosa#*	*Lissanthe strigosa*#*	*Cassinia longifolia*#
	Melichrus urceolatus#*	*Melichrus urceolatus*#*	*Lissanthe strigosa*#*
	Rubus parvifolius#*	*Rubus parvifolius*#*	*Melichrus urceolatus*#*
Grasses/groundcovers/forbs	*Bothricloa macra*	*Bothricloa macra*	*Bothricloa macra*
	Poa siberiana	*Poa siberiana*	*Poa siberiana*
	Themeda australis	*Themeda australis*	*Themeda australis*
	Dianella revoluta#	*Dianella revoluta*#	*Dianella revoluta*#
	Microlaena stipoides	*Microlaena stipoides*	*Microlaena stipoides*
	Chloris truncata	*Chloris truncata*	*Rytidosperma caespitosum/racemosum*
	Hardenbergia violacea#	*Hardenbergia violacea*#	*Lomandra multiflora*#
			Stypandra gluaca#*

*pending germination / cutting success in commercially available quantities.

#Denotes species that are predominately planted as tubestock pending seasonal availability.

Optimal conditions for germination of native woodland species occur in late spring and early summer, when there is adequate soil moisture and soil temperatures are increasing. As such, soil preparation (**Section 6.1.4**) for native ecosystem areas needs to be completed by mid-spring and seeding of native woodland species during late spring and early summer. Weather forecasts leading up to scheduled revegetation works will be taken into consideration to ensure unfavourable conditions (e.g. extreme heat or prolonged dry periods) are not predicted. The observed weather conditions leading up to and following revegetation, as well as ongoing seasonal trends, will be recorded for future analysis.

Direct seeding via aerial application (helicopter), ground (spreader or towed implement) or by hand will typically be utilised for large areas. Seed mixes tailored for native ecosystems will also include cover crops to provide rapid stabilisation of soil and provide protection for native species during germination and establishment. Cover crop species will include Japanese millet, oats and couch grass.

Seeding rate will be between 3-5 kg/ha (of native seed). Treatment of native seed (Mimosaceae, Sapindaceae and Asteraceae) to facilitate germination will be undertaken as per industry guidelines. Seed will be sourced as described in B. Flora**.** Cadia now implement the requirement for contractors to conduct standard germination test panels in select batches of upcoming tubestock to verify the viability of seed prior to use.

For certain instances, such as establishing vegetation screens around voids and rehabilitation infill planting, tube stock will be used. Species will be selected from **Table 18** and grown by a commercial nursery using local provenance seed supplied by Cadia or seed commercially supplied. In order to create a visual screen, tube stock will consist of trees and shrubs and planted at spacings of approximately 4m. Planting will occur as favourable soil moisture conditions allow. Rehabilitation infill planting requirements will be informed by annual monitoring report recommendations.

Every effort will be made to co-ordinate the completion of rehabilitation earthworks to coincide with favourable climatic conditions for planting/sowing (nominally between May and October for tube stock and between September and December for seeding). Due to the nature of the disturbed mine landscape, and the risk of erosion, seeding will commence regardless of season in an attempt to stabilise the site as soon as possible.

Agriculture (Grazing)

Where the final land use is identified as agriculture (grazing), Cadia will aim to replicate pastures in surrounding agricultural land, including the planting of eucalyptus shade trees (selected from the list of canopy species provided in **Table 18**). Highly valued and productive pastures generally contain a mix of deep-rooted perennial grasses and legumes. Species lists for this final land use is contained in **Table 19**. Sowing rates will be in the range of 2-4kg/ha for direct drilling and 4-8kg/ha used for aerial seeding.

Table 19. Agriculture / Grazing Revegetation Species Lists

Type	Species
Grasses	*Dactylis glomerata*
	Festuca arundinacea
	Lolium spp
	Phalaris aquatica

Type	Species
Legumes	*Trifolium repens*
	Trifolium subterraneum

Cadia will aim to replicate pastures in surrounding agricultural land in consideration of the land and soil capability. Regional Land and Soil Capability (LSC) mapping indicates that Cadia and surrounding locality contains Class 3, Class 4 and Class 7 land.

Seed for the establishment of the final land use of agriculture and grazing is commercially available in reliable quantities and will be purchased by Cadia on an 'as needs' basis. Seed will be pre-treated and 'germination tested' as required by the commercial supplier prior to purchase.

Optimal timing for germination is spring or autumn with good soil moisture conditions. Sowing will be undertaken with commercial agricultural equipment. Generally cover crops will not be required; however, if an area poses a risk of erosion, a cover crop may be used. Irrigation will not be used.

As noted above, due to the nature of the disturbed mine landscape, and the risk of erosion, seeding of native and pasture species will commence regardless of season in an attempt to stabilise the site as soon as possible.

Constructed Wetlands

As discussed in **Section 6.1.3 A**, Cadia propose to construct a number of wetlands to enable the improvement of water quality prior to release to the natural environment.

The potential to develop constructed wetlands on the spillway between the TSFs and Cadiangullong Creek was assessed for the purposes of locating treatment systems to intercept seepage and runoff from the TSF and treating it prior to discharge to the creek. A concept design was developed based on making the most use of the resources of the existing environment. This design is based on the following principles:

- Using rock and minor earthworks to place minor bunds across the flow path of drainage features, and thus creating a hydrology suitable for the establishment of wetlands.
- Using in-situ soils where possible as these are likely to be suitable for the establishment of wetland plants.
- Natural recruitment of wetland plants is likely for areas where a wetland hydrology has been established.
- Rock could be used for energy dissipation and to provide high-flow paths so that large and rare events are not likely to damage the wetlands.

Additional key design parameters for constructed wetlands include:

- Sediment basins or equivalent sediment control (with provision for sediment removal) should be installed upstream of any constructed wetlands to protect the vegetated macrophyte zone from sediment accumulation, which could fill the wetland and impair the wetland function.
- Topsoil 300 mm depth to support plant roots of aquatic macrophytes.
- Wetlands designed for removal of dissolved pollutants are comprised mostly of vegetated benches in shallow water. The vegetated benches typically comprise 80 % of the wetland footprint. Average water depth about 0.5 m from the normal water level, with deeper ponds (1.5 m) as refugia for extended dry periods.

Deep pools at the upstream and downstream end of the wetlands to help manage flow energy dissipation and flow distribution. The deep pools function as refugia for flora and fauna species

during dry seasons and allow for quick recovery or recolonisation of the wetlands as wet conditions resume. Deep pools may comprise 20 % of the wetland footprint. Extended detention water level of about 0.3 m above the normal water level, to provide temporary storage for rainfall runoff events. Plant species such as the native *Typha domingensis*, which can persist in deep marsh environments up to 0.5 m of water depth. Littoral/edge species such as *Carex appressa* should be planted around the edges to stabilise and prevent weed species from establishment. Pasture grasses such as *Poa siberiana* can be planted on the batters. Wetlands comprising principally of Typha have naturally developed in many areas of impeded drainage around the Cadia site.

6.1.6 Ecosystem and Land Use Development

Following ecosystem and land use establishment (i.e. planting), regular inspections (refer to **Section 8**) will be conducted to monitor the success and progress of the developing vegetation community. Cadia has developed a rehabilitation inspection template for monitoring purposes.

The following measures will be implemented to facilitate the successful development of the vegetation community:

- Machinery or vehicle access will not be permitted (with the exception of any urgent repairs to drainage control structures), or on formed access tracks.
- Livestock will be excluded for all native ecosystem final land use areas. For Agriculture (grazing) final land uses, grazing will be permitted when groundcover >90% and the average pasture height is 30cm (areas will require fencing to contain livestock and the provision of water). Grazing will be permitted on an ongoing rotational basis (incorporating periods of rest) in consultation with engaged agronomists. TSFs and embankments will not be subject to grazing.
- Weed management will be required and implemented where regular inspections indicate that there is a risk of weeds significantly impacting the establishment of the target vegetation community. Generally, selective herbicides and spot-spraying techniques will be used. A weed management and maintenance program will be implemented across all areas of the rehabilitation.
- Browsing/damage by macropods and other feral pests (e.g. pigs, rabbits, goats and deer) will be monitored. Control programs will be implemented as required.
- Erosion and surface water movements will be monitored. Should maintenance or remedial earthworks be required, the disturbance area will be kept to a minimum and the area re-seeded (by hand) as required immediately following the completion of the works.
- Any failed revegetation areas will be investigated to determine the causes of failure. Any causes will be corrected, and re-seeding or other remedial works will take place as required. Nominally, 12-24 months would be allowed for vegetation establishment prior to decisions being made on re-seeding.
- Approximately 12 months following initial seeding, annual independent monitoring would commence (**Section 8.2**) with comparisons made against analogue site parameters. Any corrective actions required, as recommended by the restoration ecologist, such as fertiliser application, re-seeding, introduction of missing species or structural plant types, erosion control etc, will be programmed and implemented.
- For areas with a final land use of agriculture (grazing), the achievement of completion criteria will be deemed as demonstration of being suitable for grazing.

6.2 Rehabilitation of Areas Affected by Subsidence

Subsidence areas at Cadia are approved for retention and will become permanent exclusion zones. Refer to Section 4, Section 6.1.1 and Section 6.1.3.

7 PART 7 - REHABILITATION QUALITY ASSURANCE PROCESS

Table 20 (overpage) outlines Cadia's quality assurance (QA) processes to validate that rehabilitation has been undertaken in accordance with this RMP and the requirements of the Cadia East Project Approval.

All rehabilitation activities must be implemented under a formal QA framework to ensure treatments are delivered in accordance with project specifications and performance objectives. The QA system must comprise Standard Operating Procedures (SOPs) for each rehabilitation activity. The QA system must also include Inspection and Test Plans (ITPs) which define inspection points, hold points, verification methods and documentation requirements to verify that the works and any follow up corrective or other actions are progressing as to plan.

An ITP will be developed as part of the Rehabilitation Enhancement Strategy 5-year Works Program (Umwelt, 2025) and incorporated in future revisions of the RMP.

Table 20. Rehabilitation Quality Assurance

Rehabilitation Phase	Aspect	Quality Assurance	Responsibility	Evidence	Timing
All	Risk Identification and Management	Undertake an biannual review and if required update the Rehabilitation Risk Assessment to include: ➢ Any new identified risks ➢ Any new identified risk controls ➢ A review of risk controls found to be ineffective.	Advisor, Environment – Land & Biodiversity	Current Rehabilitation Risk Assessment.	Biannually Or as required under Clause 7 of Schedule 8A of the Mining Regulation
Active Mining	Topsoil / Clay	Procedure for maximising the recovery, quality and storage of topsoil.	Superintendent, Surface	Documented procedure (to be reviewed and updated). Machinery logs of locations and hours of soil / clay stripping.	Annual reconciliation (as at 30 June each year). Ongoing throughout all rehabilitation phases.
		Formal survey record of location of topsoil and clay stockpiles, date created, source location and volume stored.	Supervisor, Surveyor	Survey record.	Annual reconciliation (as at 30 June each year). Ongoing throughout all rehabilitation phases.
		Annual reconciliation of stored topsoil and clay and projection of rehabilitation requirements.	Advisor, Environment – Land & Biodiversity	Reconciliation record, published in annual report. Clay reconciliation to be developed.	Annual reconciliation (30 June each year).
	NAF rock	Annual reconciliation of available NAF waste rock and projection of rehabilitation requirements.	Lead, Environment	Reconciliation record, published in annual report. NAF reconciliation to be updated after review of salvage requirements from SWRD.	Annual reconciliation (30 June each year).
	Waste Rock	Annual Report of mined waste placed in SWRD (NAF & PAF)	Supervisor, Surveyor	Survey record.	Annual reconciliation (30 June each year).

Rehabilitation Phase	Aspect	Quality Assurance	Responsibility	Evidence	Timing
		Annual Report of waste rock removed from SWRD (NAF)			
	Native Seed	Annual reconciliation of available native seed (Seed Store Database) and projection of rehabilitation requirements.	Advisor, Environment – Land & Biodiversity	Seed store database. Reconciliation record, published in annual report. LOM seed requirements to be developed.	Annual reconciliation (as at 30 June each Year). Ongoing throughout all rehabilitation phases.
	Habitat Salvage	Procedure for maximising the recovery and salvage of habitat resources from cleared areas.	Superintendent, Surface	Documented procedure (to be reviewed and updated). Machinery logs of locations and hours of harvest / relocation. Habitat materials salvaged and / or placed, published in annual report.	As required (following completion of campaigns) throughout Active Mining phase.
	Weed control	Weed control program in place.	Advisor, Environment – Land & Biodiversity	Invoices and spray records from contractor. Rehabilitation inspection record (document). Rehabilitation weed control program is planned to be reviewed during 2023.	Ongoing throughout all rehabilitation phases, Scheduled regularly throughout the year.
	Pre-clearance flora and fauna assessment	Environmental Impact Permit, vegetation clearance protocol / threatened Species protocol implemented.	Advisor, Environment – Land & Biodiversity	Documented record of inspection and application of protocols.	Ongoing throughout Active Mining phase.
	Pest management	Programs implemented to manage predatory pest species.	Advisor, Environment – Land & Biodiversity	Contractor reports. Documented record of programs implemented. Published in annual report.	Scheduled regularly throughout the year.

Rehabilitation Phase	Aspect	Quality Assurance	Responsibility	Evidence	Timing
	Waste management	Total waste management program implemented	Superintendent – Fixed Plant Maintenance	Annual report from Total Waste Management Contractor of materials recycled and taken to local landfill. Documented record of materials disposed on site (as per EPL 5590).	Annual (as at 30 June each year). Annual (EPL Annual Return).
	Tailings Geochemistry	Sampling program is to demonstrate that tailings geochemistry remains as per initial Cadia East Environmental Assessment (from a rehabilitation risk perspective).	Superintendent, Metallurgy	Record of sampling, analysis and interpretation of results.	Ongoing.
	Exclusion of Cadia east and Ridgeway Subsidence Zones	Checks that fencing, bunds and trenches remain effective for the exclusion of persons from subsidence zones.	Superintendent Geotechnical	Inspection record (document) of fencing, bunds and trenches to ensure they remain effective (ie any evidence of intrusion by people or damage from fallen trees).	Biannual and ongoing throughout Active Mining phase.
	Cadia Hill Pit TSF & Ridgeway and Cadia East Subsidence zone water balance	Pit and subsidence zones water balances are to be checked to verify final void levels and interaction with the Cadia East Subsidence Zone. Rehabilitation plan is to be modified as required following study/plan.	Lead, Environment	Hydrological model and report.	Completed during active mining phase following cessation of deposition.
	Cadiangullong Creek Diversion	Geotechnical assessment undertaken of high walls to verify long term stability. Rehabilitation plan modified as required following study/plan	Superintendent Geotechnical	Geotechnical report.	Completed during active mining phase to allow planning for landform establishment phase.
	Constructed wetlands	The predicted performance of constructed wetlands in the improvement of mine waste waters is verified through field trials.	Advisor, Environment – Land & Biodiversity	Conduct research field trial on the use of constructed wetlands to improve mine waste water quality	Conducted and verified prior to Landform Establishment phase.

Rehabilitation Phase	Aspect	Quality Assurance	Responsibility	Evidence	Timing
				(documented Masters/ Honours of PhD thesis).	
Decommissioning	Infrastructure	Risk assessments undertaken for the demolition of individual buildings. Any hazardous items, materials, structures identified.	Superintendent Projects	Risk Assessment Document.	Prior to demolition.
	Isolation of services	Energy sources identified and isolated prior to demolition.	Superintendent Projects	Documented record of isolations conducted and 'test for dead.'	Prior to demolition.
	Removal of hazardous materials	Any identified hazardous materials are identified and removed prior to demolition.	Superintendent Projects	Documented record of items / materials removed including compliance with relevant standards.	Prior to demolition.
	Exclusion fencing of demolition area.	Exclusion fencing erected and secure.	Superintendent Projects	Documented (inspection) record of fencing erected and in place.	Prior to demolition and daily during demolition activity.
	Buildings / structures identified for retention	Structural assessment conducted of items to ensure they remain suitable for post mining land uses.	Superintendent Projects	Structural assessment report produced by qualified structural engineer.	Prior to final decision on retention of item.
	Land contamination	Land is verified free from residual (post mining) risks relating to land contamination and is suitable for the proposed post mining land use.	Lead, Environment	Documents: ➢ Contaminated land risk register. ➢ Land Contamination Assessment. ➢ Remedial Action Plan. ➢ Validation report.	Post demolition, prior to landform establishment.
	Underground Infrastructure	Documented evidence of the assessment, design and implementation of decommissioning of vent fans and portals.	Superintendent Projects	Documents: ➢ Inspection report – validating that	Ongoing throughout phase.

Rehabilitation Phase	Aspect	Quality Assurance	Responsibility	Evidence	Timing
				contamination sources have been removed. ➢ Geotechnical assessment reports for vent raises and portals. ➢ Engineer design documents for capping vent raises / sealing portals. ➢ Post construction Engineers QA/QC reports and sign off on implementation of design.	
Landform Establishment	Site Runoff Pond Process Water Pond	Land is verified free from residual (post-mining) risks relating to land contamination and is suitable for the proposed post mining land use.	Lead, Environment	Documents: ➢ Contaminated land risk register. ➢ Land Contamination Assessment. ➢ Remedial Action Plan. ➢ Validation report. ➢ Engineers report on the integrity of dam embankments and suitability for post mining land use.	Post demolition, prior to landform establishment.
	SWRD Landform Evolution Modelling	Landform evolution modelling is conducted prior to further SWRD rehabilitation. Modelling to inform future landform design.	Advisor, Environment – Land & Biodiversity	Documented modelling report.	Conducted prior to further SWRD rehabilitation.
	SWRD Cover design	Survey record of as built cover design.	Advisor, Environment –	Documents: ➢ Survey – as built record.	Completed and verified prior to Growth Medium Development phase.

Rehabilitation Phase	Aspect	Quality Assurance	Responsibility	Evidence	Timing
		Permeameter records to verify target permeability has been achieved. QA/QC record for HDPE installation / welding etc (provided by contractor). QA/QC record for compacted clay capping (provided by contractor). Installation of cover design monitoring equipment.	Land & Biodiversity	➢ Permeameter test results (Pass/fail). ➢ Report – HDPE QA/QC liner installation. ➢ Report – compacted clay capping QA/QC installation. ➢ Report cover monitoring equipment installation.	
	SWRD Surface Drainage plan	SWRD surface drainage plan developed and implemented. Survey record of as built drainage control.	Superintendent, Surface	Documents: ➢ Drainage plan. ➢ Survey – as built record.	Completed and verified prior to Growth Medium Development phase.
	TSF Embankment Landform Evolution Modelling	Landform evolution modelling is conducted for the STSF and NTSF Embankments prior to the Growth Medium Development phase. Modelling to inform design of STSF and NTSF embankments.	Advisor, Environment – Land & Biodiversity	Documented modelling report.	Conducted prior to the Growth Medium Development phase.
	TSF Drainage Plan	TSF surface drainage plan developed and implemented (including structures to bring surface waters from the TSF down to natural topography). Current drainage plan modified as required following study/plan. Survey record of as built drainage control.	Superintendent, Tailings and Water	Documents: ➢ Drainage plan / study. ➢ Survey – as built record.	Completed and verified prior to Growth Medium Development phase.
Growth Medium Development	Soil Sampling and amelioration	Stockpile sampling conducted and results used to determine and implement any soil ameliorants.	Advisor, Environment – Land & Biodiversity	Documented soil analysis and assessment against established minimum criteria. Soil sampling procedure to be reviewed and updated.	Prior to spreading topsoil.
	Growth Medium application	Environment team inspection, record and sign off verifying that:	Advisor, Environment –	Documents: ➢ Inspection template.	Prior to Ecosystem and land use establishment phase.

Rehabilitation Phase	Aspect	Quality Assurance	Responsibility	Evidence	Timing
		➢ Any required ameliorants have been applied. ➢ Topsoil spread to a minimum of 200 mm. ➢ Area sufficiently ripped parallel with the contour. ➢ Erosion control measures are in place.	Land & Biodiversity	➢ Inspection record and sign off.	
	Placement of habitat enhancement structures	Environment team inspection, record and sign off verifying that: ➢ Habitat enhancement structures have been installed in the rehabilitation area.	Advisor, Environment – Land & Biodiversity	Documents: ➢ Inspection template. ➢ Inspection record and sign off.	Prior to Ecosystem and land use establishment phase.
Ecosystem and land use establishment	Seeding/ Sowing conditions	An inspection is conducted prior to sowing seeds to ensure ground preparation is suitable for seed spreading	Advisor, Environment – Land & Biodiversity	Documents: ➢ Inspection template. ➢ Inspection record. ➢ Viability test results.	Conducted prior to sowing seeds or planting tubestock.
	Seeding/ tubestock rate	Verification records are provided by the contractor with: ➢ Maps and records of tubestock planted (including species planted and density). ➢ Maps / GPS records of seeding conducted including the species and verified seeding rate per species per ha and overall seeding rate. ➢ Verification of the specified seed mix/plant species.	Advisor, Environment – Land & Biodiversity	Documents: ➢ Implementation records provided by contractors. ➢ Inspection template.	Report provided within 30 days of completion of program.
	Weed and feral pest management	Monitoring and implementation of weed and pest management.	Advisor, Environment – Land & Biodiversity	Contractor weed and feral animal management records.	Scheduled regularly throughout the year.
	Rehabilitation Monitoring	Initial establishment and ecological monitoring. Rehabilitation walkover inspections.	Advisor, Environment –	Rehabilitation monitoring and inspection reports.	Six monthly for initial establishment monitoring

Rehabilitation Phase	Aspect	Quality Assurance	Responsibility	Evidence	Timing
			Land & Biodiversity		and annually for walkovers and ecological monitoring.
Ecosystem and Land Use Development.	Rehabilitation Inspections	Rehabilitation walkover inspections. Including assessment of surface water management structures and any areas of erosion.	Advisor, Environment – Land & Biodiversity	Rehabilitation inspection reports.	Annually.
	Weed and feral pest management	Monitoring and implementation of weed and pest management.	Advisor, Environment – Land & Biodiversity	Contractor weed and feral animal management records.	Scheduled regularly throughout the year.
	Annual ecological monitoring program	Annual assessment of rehabilitation progress against analogue sites and completion criteria. Annual assessment of woodland analogue sites. 3 yearly assessment of agriculture (pasture) analogue sites. Corrective actions are planned and implemented following receipt of the final report.	Advisor, Environment – Land & Biodiversity	Report provided by ecological monitoring consultants with specific recommendations relating to achieving progress towards completion criteria.	Annually in Autumn.

8 PART 8 – REHABILITATION MONITORING PROGRAM

8.1 Analogue Site Baseline Monitoring

Since 2007-08, Cadia have been assessing rehabilitation monitoring outcomes against proposed completion criteria derived from analogue site parameters. The methodology adopted at Cadia involves the selection and monitoring of a series of analogue sites that reflect the final land uses proposed for site rehabilitation, being agriculture (grazing) and native ecosystem (conservation). Rehabilitated sites are compared to analogue sites with the same final land use.

The monitoring techniques, timing of surveys, and parameters assessed are identical for analogue sites and rehabilitation sites, allowing the robust and repeatable assessment of rehabilitation success using measured parameters. Analogue sites and rehabilitation sites are assessed at the same time of the year to allow for seasonal influences.

Analogue sites chosen for Cadia include the a selection of remnant woodland and riparian woodland communities that are relevant to the target native ecosystem rehabilitation. Additional reference sites have been selected for agriculture/grazing. As such, they are a conservative representation of the pre-mining landscape. The analogue sites were spread out where possible to maximise the spatial distribution and subsequent variations in community composition across the local landscape and are all located on surrounding Cadia owned property. It is acknowledged that the analogue sites are still subject to impact and change due to (for example) occasional grazing, fire, drought, physical disturbance etc. The location of current reference and monitoring sites is shown in **Figure 11**.

Reference sites have been selected based on the following final land uses:

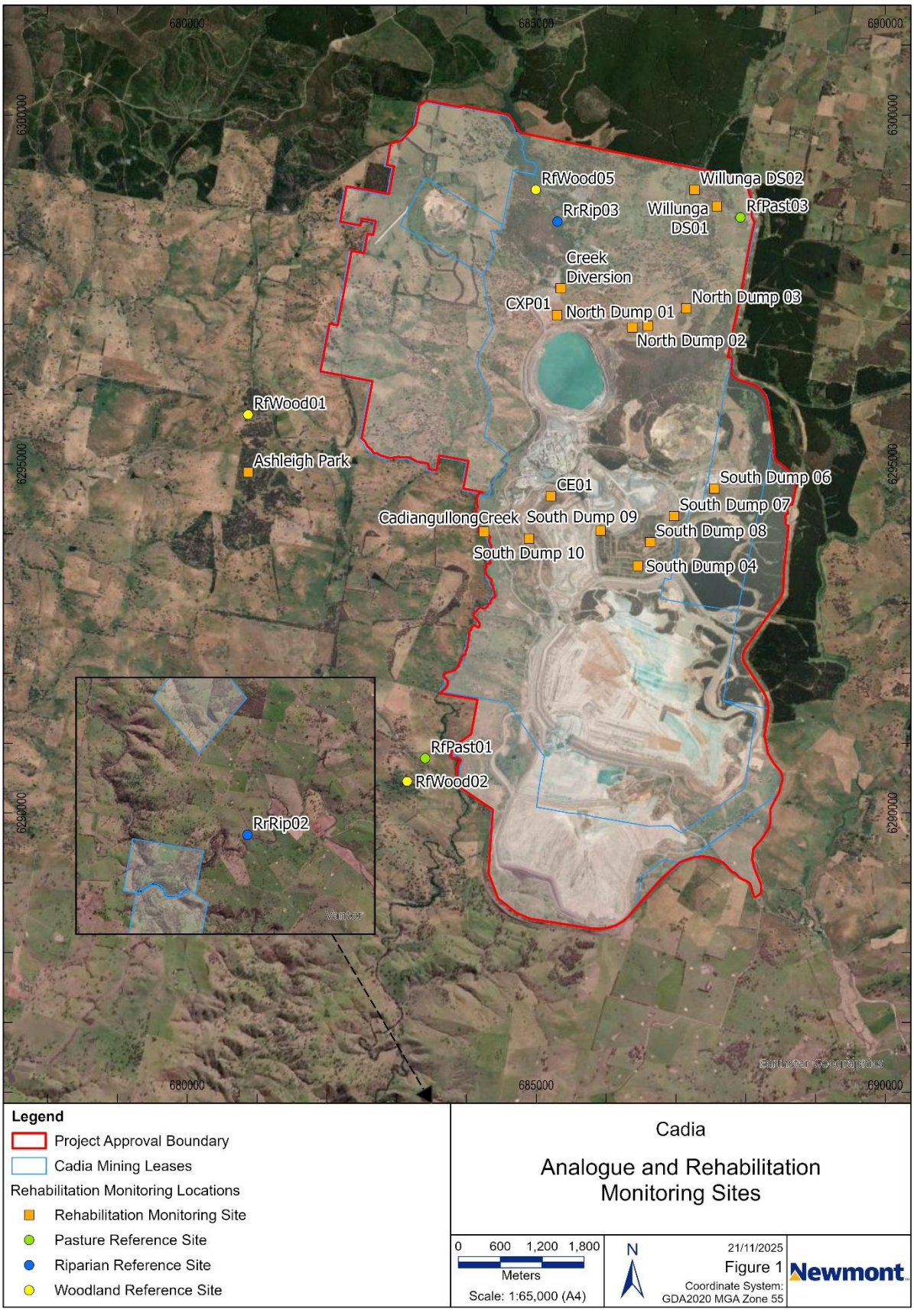
- Native Ecosystem (Woodland / conservation).
- Native Ecosystem (Riparian / conservation).
- Agriculture / grazing.

Analogue sites established within nearby areas are used for condition monitoring to measure and evaluate seasonal variation for comparison with rehabilitation vegetation health. Additionally, the sites are used to inform flora species diversity, structure and composition, as an aid to developing final rehabilitation vegetation communities. Analogue site monitoring frequency changes from year to year based on the annual monitoring schedule wherein:

- Assessment of Woodland analogue sites (corresponding to Native Ecosystem final land uses) is undertaken on an annual basis.
- Assessment of Pasture analogue sites (corresponding to Agriculture (grazing) final land uses) is undertaken on a three- yearly basis.
- Assessment of riparian woodland analogue sites (corresponding to Native Ecosystem final land uses) is undertaken on a three-yearly basis.

Ongoing monitoring of the analogue sites will be used to refine the completion criteria over time. Further details on this monitoring program are provided in **Section 8.3**.

Figure 11. Analogue and Rehabilitation Monitoring Sites



8.2 Rehabilitation Establishment Monitoring

The principal objectives of the rehabilitation monitoring programme are:

- To determine whether early intervention/corrective actions are required to assist with meeting final land use objectives and completion criteria; and
- To refine revegetation techniques to ultimately meet established mine completion criteria.

Cadia are planning to develop an improved rehabilitation inspection template and plan to conduct regular inspections (involving a comprehensive 'walkover' of all completed rehabilitation). For initial establishment monitoring:

- Following seeding or tubestock planting, inspections are undertaken on a 6 monthly basis with any corrective actions to be implemented within 3 months.
- Once no need for corrective actions is identified in 2 x consecutive inspections, inspections are to revert to an annual basis, conducted during the ecological monitoring program (Once native vegetation is beginning to establish and results can be compared to relevant criteria).

Inspections are to be documented, with photographs as required and records kept in the rehabilitation QA system (Rehabilitation Records filing system, currently on SharePoint). The Inspection template includes the following aspects / risks:

- Weeds (high threat/priority weeds and impact on establishing target vegetation).
- Vegetation establishment (germination success, density and species diversity (target final land use species)) and whether replanting / sowing / addition of select species may be required.
- Vegetation condition.
- The presence of habitat structures.
- The presence of erosion and any required repairs.
- Fauna sightings.
- Performance of drainage management systems and any required maintenance requirements.
- Any identified corrective actions will be scheduled into work programs for completion (utilising Cadia's existing incident and compliance tracking systems).

The monitoring parameters of the initial establishment monitoring primarily relate to identifying key and dominant species (native and exotic including high threat/priority weeds) to determine germination success and landform stability.

Initial establishment monitoring results are assessed to determine:

- If there are any emerging risks to rehabilitation, including areas where rehabilitation may be failing and require early intervention.
- Identify if triggers have been met for preventative or mitigation controls to minimise the impacts of emerging issues in accordance with the Trigger Action Response Plan outlined in **Section 10.**
- Provide data that may inform continuous improvement of rehabilitation records.

8.2.1 Other Inspection and Monitoring Programs

A number of additional inspections and / or monitoring is currently undertaken or proposed to validate the completion criteria as outlined in **Section 4**. These inspections are listed in **Table 21.**

Table 21. Additional Validation Inspections or Monitoring

Inspection	Frequency	Commencing
Subsidence Zone Fencing, allowing the escape of fauna.	Biannual	Implemented
Assessment of the effectiveness of visual screens (from publicly accessible areas) around subsidence zones (using high resolution photo points).	Annual	5 years post planting of visual screens.
Water quality sampling of Cadia Extended backfilled void water.	Annual	Implemented
Water quality sampling of Northern Leachate and Southern Leachate Ponds.	Annual	Implemented
Annual Independent Cover System Performance Monitoring Program and report.	Annual	Implemented
Demolition records (before and after photo points).	As required	Prior, during and after demolition.
Inspection of sediment dams for water level, silt and maintenance requirements.	Following 10mm of rainfall	Implemented
High Wall exclusion fencing.	Annual	2025
Water management structures.	Annual	Implemented
Erosion and land form stability.	Annual	Implemented
Final landform design compliance – survey records.	As required upon completion of landform construction	After construction/shaping of each rehabilitated area.

8.3 Measuring Performance Against Rehabilitation Objectives and Rehabilitation Completion Criteria

Cadia's primary monitoring program to measure the success of rehabilitation and progress towards completion criteria involves the detailed (annual) ecological survey of rehabilitation and comparison against a range of analogue sites that correspond with approved final land uses.

A description of the analogue site program is contained in **Section 8.1**. Monitoring is undertaken across a range of variables, with the aim of assessing progress towards the stated completion criteria for the site.

The monitoring program will be undertaken within rehabilitated and analogue site areas until it can be demonstrated that rehabilitation has satisfied the rehabilitation objectives and completion criteria. Information from this monitoring program will also be used to refine completion criteria as required.

The ecological monitoring program involves systematic and repeatable surveys at permanent monitoring sites. At these monitoring sites, both qualitative and quantitative data are collected to provide adequate data to assess progress against relevant performance indicators, rehabilitation objectives and completion criteria.

At Cadia, rehabilitation has been progressive since the inception of the monitoring program and subsequently the number of rehabilitation monitoring sites has typically grown over the years. A review of the monitoring program has been undertaken on numerous occasions prompting the need to simplify and refine the methodology without losing the heterogeneity of the local ecology and to align more adequately with the various changes in the reporting guidelines. Rehabilitation

has been undertaken on the main Waste Emplacements in 2008 (SWRD) and in 2014/2015 and 2018 (NWRD and SWRD). Subsequently there have been some changes in the quantity, locations and frequency of monitoring of the rehabilitations sites.

The current monitoring program currently consists of:

- 14 woodland rehabilitation sites
- Two riparian woodland rehabilitation sites
- Three woodland reference sites
- Two riparian reference sites
- Two pasture reference sites

To obtain the range of ecological data which quantifies the completion criteria targets, the monitoring program incorporates a combination of Landscape Function Analysis (LFA), accredited soil analyses and various measurements of ecosystem diversity and habitat values based on and adapted from the BioBanking/Biometric Assessment Methodologies (BAM) (e.g. Biometric Manual 3.1 (NSW Department of Environment, Climate Change and Water (DECCW 2011)). Rehabilitation monitoring at Cadia has always followed early versions of the BioBanking/ BAM however BAM has undergone various changes over time. Subsequently, some changes of methodology have not always been adopted in order to ensure continuity of the monitoring data and relevance of the long-term monitoring efforts. Further details of the rehabilitation monitoring methodology are provided in the annual rehabilitation monitoring reports appended to the Annual Review. Data obtained from replicated reference sites are used to provide upper and lower ecological performance indicator limits or “completion criteria targets”. Primary completion performance indicators are those chosen as completion criteria targets and rehabilitation sites should equal, exceed, or show positive trends towards those attributes of the reference sites. When these primary completion performance indicators have been met or are trending in the right direction, the sites should therefore theoretically be eligible for closure sign off. The range values of each ecological performance indicator are adapted annually to reflect climatic variations and local disturbance events. Ecological monitoring is undertaken in autumn in all monitoring years.

The objective of the rehabilitation monitoring program is to track the progress of rehabilitation works and document any changes in floristics, structure and habitat condition, specifically in relation to rehabilitation objectives and completion criteria. Where appropriate, management recommendations are provided to improve biodiversity values.

Cadia are currently undertaking rehabilitation monitoring against their own criteria that pre-dates the NSW RR Rehabilitation Reform requirements. As part of the Rehabilitation Enhancement Strategy 5-year Works Program (Umwelt, 2025), Cadia will review and update existing rehabilitation completion criteria for areas at the NWRD and SWRD and outcomes of this will be included in a future iteration of the RMP.

9 PART 9 – REHABILITATION RESEARCH, MODELLING AND TRIALS

9.1 Future Rehabilitation Research, Modelling and Trials

Proposed future research that addresses knowledge gaps and informs the refinement of rehabilitation methodologies is listed in Error! Reference source not found..

A number of models are proposed in **Section 6.3** (such as updating hydrological models, groundwater models etc) and are not replicated in this section.

Table 22. Proposed Research Trials and Models

Research	Timing
Trial of a constructed wetland to verify design, retention and ultimate performance of wetland in the improvement of waste rock dump leachate. The location of the trial would be to the west of the South Waste Rock Dump, downstream of either the Southern or Northern leachate ponds.	A pre-feasibility assessment has been conducted, with further planning and preparation to commence in 2024-25. Construction to follow.
Undertake trial to examine the survival and growth of eucalypt tube stock planting on the NWRD to assess effectiveness of different types of tree guards, and survivability of different species.	2023 (commenced).
Undertake seed viability and purity testing on current seedbank	2023 (commenced)
Undertake Landform Evolution Model of both the STSF & NTSF to identify risks in the current rehabilitation design. While there may be limitations to the landform design, due to the requires structural integrity requirements of the embankment, the model may indicate potential improvements in drainage design and rehabilitation that will lead to improvements in the long-term stability and sustainability of the landform.	2025
Undertake a pre-feasibility assessment of the SWRD to determine if incorporating 'Geomorphic Design Principles' in the construction of the remaining land form (to be constructed) is feasible. If feasible, commence proposed designs.	2024
Conduct literature searches and trials on the bulk harvesting and spreading native grass seed (on large mining landform scales) to assist in replicating the desired critically endangered ecological woodland community for select areas.	2024
TSF cover system trials and monitoring.	Proposal Stage
Alternative cover options assessment (NWRD/SWRD).	2025
Geochemistry Gap Assessment and Trials.	2025 - Reporting Stage

9.2 Current Rehabilitation Research, Modelling and Trials

Since operations commenced at Cadia, several formal research projects have been undertaken, aimed at verifying and improving rehabilitation outcomes. **Table 23** provides a summary of completed research, the outcomes of which have been incorporated into the proposed rehabilitation methodologies described in this RMP.

Table 23. Research and Trials Conducted at Cadia

Research Project	Key Findings
2000-01 Soil Capping Depth and Species Selection Trials for the Rehabilitation of Cadia Hill Gold Mine Tailings Storage Facility (Matthew Tighe)	The research project demonstrated that Cadia tailings are benign, alkaline and exhibit low nutrient conditions and poor soil structure. The trial demonstrated that vegetation could be established using a 15 cm capping of topsoil. Deeper (>15 cm) topsoil will not provide any further benefit for plant establishment. The findings further supported the 2004-2012 tailings revegetation trial design.
2004-05 Honours Project - An Evaluation of Substrate and Flora Treatments for Rehabilitation of Tailings Dam Storage Facilities. (Nicole Reid)	The trial tested three different capping treatments (20 cm topsoil, incorporated biosolids and no capping), three vegetation communities (pasture (introduced and native) and native woodland) and +/- fertiliser treatments. Tailings were characterised as saline and alkaline with low nutrient levels and low organic matter. The trial demonstrated successful establishment and persistence of grasses and the importance of increased fertility (fertilisers or biosolids). Establishing woodland communities were too immature to determine long term success.
2007/08 Honours Project - Metal Uptake by Pasture Plants at the Tailings Rehabilitation Site (Vanessa Connick, Charles Sturt University, Orange)	The honours project tested plant tissues from grass and legume species established as part of Reid's project above. The purpose of the study was to identify any potential risks from allowing grazing as a long-term land use option. The study identified the potential risk of cattle grazing on the rehabilitated tailings surface as elevated molybdenum was found in sub-clover tissue samples, which can contribute toward copper deficiencies. The final land use of TSFs was subsequently changed to native ecosystem (conservation).
2008-09 Masters Project – An Evaluation of Substrate and Flora treatments for Rehabilitation of Tailings Dam Storage Facilities (Nicole Reid)	This Masters project was an extension of the 2004-2005 study undertaken by Reid. Biosolid and topsoil treatments provided the best overall establishment, growth and persistence of both pasture and woodland communities. Plants added directly to un-treated tailings persisted and grew to a limited extent with the addition of fertiliser. The use of topsoil and biosolids has been incorporated into the rehabilitation methodology for TSFs. The trial further verified the success of pasture and woodland ecosystem establishment on the TSF surface (with topsoil or biosolid treatments).
2008-09 Honours Project - Uptake of copper and zinc by Baumea articulata, Carex appressa, Eleocharis acuta and Juncus usitatus: A preliminary study for a rehabilitative wetland (Norman 2009).	The honours project was an initial assessment of that ability of native wetland species to uptake metals, namely copper and zinc, from waste rock dump leachate. The study demonstrated the ability of all species tested to uptake copper and zinc into roots and shoots. There was variance in the amount of metals taken up by different species. The results were used in the design of a more in-depth PhD study (Adams) and also resulted in constructed wetlands being included in mine closure scenarios for the treatment / improvement of leachate and runoff waters.

Research Project	Key Findings
2008-09 GHD investigation. Investigation intro Tailings Revegetation Trial Salinity.	The investigation, undertaken by GHD was to investigate the potential salinity risks identified by Reid's Honours and Masters projects as soil salinity was observed to be above that of agricultural guidelines. GHD concluded that agricultural guidelines are based on NaCl, whereas tailings is dominated by sulphates instead. Salinity alone should not be used as a sole indicator of revegetation risks or success. Rather, parameters such as pH, soil structure and plant health are more important indicators.
2010-11 DnA Environmental. Independent assessment of Tailings Revegetation Trial & Comparison against Mine Completion Criteria	The investigation undertaken by DnA Environmental provided an independent assessment into the success of the tailings revegetation trial conducted by Reid. The study also tested the concept of utilising reference/analogue sites (including the use of Landscape Function Analysis) to compare revegetation works and establish formal mine completion criteria. Key findings are summarised below and verify the rehabilitation methodology proposed in this RMP: Overall, topsoil and biosolid treatments were effective in providing a substrate capable of supporting introduced pastures and tree and shrub plantations, despite the prolonged drought conditions experienced throughout much of the trial period. Although not specifically assessed within these set of results, there was excellent recruitment of grass and clover species with an abundance of newly germinated seedlings in topsoil and biosolid treatments as a result of recent rainfall conditions. There was a high percentage of ground cover with annual plants and dead plant material providing a cover of litter which was accumulating and is essential for sustaining microbial function and nutrient recycling processes. There was some Acacia dealbata (Silver Wattle) suckering and new seedling recruitment, with flower and bud observed in many individuals. In summary, the results from these trials including those presented by Reid (2004, 2009) have shown that it is feasible to rehabilitate the tailings storage facilities at Cadia into native woodland and introduced grazing pastures as final landuse options. The most successful of the trial treatments included when they were sown into topsoil or biosolid substrates.
2009-14 PhD Project - Evaluation of Australian native wetland plants for phytoremediation of saline mine–leachate (Allan Adams, CSU)	This PhD project, utilising Norman's honours project as a base, built on the performance of native wetland species for the treatment/improvement if waste rock dump leachate. The study concluded that native wetland species have the ability to reduce concentrations of copper, manganese and zinc in leachate. Typha domingensis was most successful in the uptake of metals while other species tested continued to show promise in the uptake of metals. The study confirmed the earlier work completed by Norman and supported the inclusion of constructed wetlands onto the mine site closure planning as described in this RMP.
2021/2022 (OKane Consultants)	Landform Evolution Modelling undertaken to assess the long-term erosional stability of the NWRD and SWRD using SIBERIA model undertaken by Okane Consultants. Assessment of surface water management structures within the rehabilitated landforms undertaken by GHD.
2023 (WSP Australia)	Building on the O'Kane LEM, an Erosion and Water Management Infrastructure Assessment was conducted by WSP over the NWRD and SWRD. The assessment identified the current performance of the water management structures and detailed in with high accuracy the presence of erosion features across the landforms. Furthermore, the flow modelling in the assessment provided an understanding of how water moves across the site and allowed the causal factors for the existing erosion to be determined.
2025 (Umwelt)	In response to Section 240 NTCE0017029, Cadia engaged Umwelt to prepare a Rehabilitation Enhancement Strategy to address deficiencies in rehabilitation

Research Project	Key Findings
	performance across the NWRD and SWRD. The Strategy provides a works program to be implemented over a five year period to improve rehabilitation outcomes across the NWRD and SWRD. To support the recommendations in the Strategy, the following investigative work were completed by Umwelt: • Soil sampling and analysis. • Additional field inspections/assessments. • Flora surveys completed by ecologists.

10 PART 10 – INTERVENTION AND ADAPTIVE MANAGEMENT

The rehabilitation monitoring program as outlined in **Section 8** will be used to identify any maintenance actions required and whether further works are required to achieve the closure criteria (refer to **Section 4** and **5**).

The following Trigger Actions Response Plan (TARP) **(Table 24)** have been developed to identify required management actions in the event of impacts to rehabilitation, or where rehabilitation outcomes are not achieved in an acceptable timeframe. Where necessary, rehabilitation procedures will be amended accordingly with the aim of continually improving rehabilitation standards. The rehabilitation monitoring program will trigger response actions as specified in the TARP. The TARP will be reviewed and may be revised as conditions at Cadia change or new threats to rehabilitation are identified.

Table 24. Triger Action Response Plan

TARP	Threat to Rehabilitation Success	Trigger	Action / Response*	Timeframes / Monitoring
1	Ultimate water levels within subsidence zones and Cadia Hill pit void will water will not reach a stable equilibrium and spill to surface water systems.	Water levels increasing within subsidence zones / Cadia Hill Pit TSF with a trajectory to spill (>80% capacity within void).	Commence pumping to alternate storage location (alternate void). Undertake updated hydrological study. Investigate treatment / release / alternate use options.	Pumping commenced within 40 days for Cadia Hill Pit TSF or 200 days for subsidence zones. Physical inspection to monitor water level. Hydrological study completed within 4 months. Alternate option implemented within 6 months of study.
2	Waste Rock Dump Cover Design, combined with constructed wetlands is not successful in improving water quality suitable for release to surface water systems.	Once wetland plants are fully established, post closure water quality in wetland exceeds ANZECC guidelines for livestock for copper (0.5 mg/L) and zinc (20 mg/L) for 3 consecutive monthly samples.	Immediate pumping of water from leachate dams to Pit / Subsidence zone. Implement containment / treatment options.	Commence pumping within 48 hours. Containment and treatment options implemented within 6 months. Monthly water quality sampling and assessment against guideline values.
3	Waste Rock Dump cover designs are not effective in reducing infiltration into waste rock dumps.	Monitoring systems demonstrate infiltration > 10% of annual rainfall beneath the clay barrier or liner. And Water quality exceeds parameters in TARP row 2.	Immediate pumping of water from leachate dams to Pit / Subsidence zone. Engage consultant to determine containment / treatment options. Implement Option.	Commence pumping within 48 hours. Containment and treatment options implemented within 12 months. Monthly water quality sampling and assessment against guideline values.
4	2 metres of NAF growth medium is not effective in sustaining plant growth (part of cover design).	Vegetation growth to climax community fails to meet (or not progressing towards) mine closure criteria (reference / analogue sites). Identified via annual assessment reported in Annual Report)	Immediate investigation to verify cause. Based on investigation, implement actions to remedy such as fertiliser, soil ameliorant, alternate final land use, alternate completion criteria etc.	Investigation completed within 2 weeks. Corrective action implemented within 3 months. Correction identified via ongoing annual assessment against reference / analogue sites.

TARP	Threat to Rehabilitation Success	Trigger	Action / Response*	Timeframes / Monitoring
5	Insufficient clay or benign material for achieving Waste Rock Dump or TSF cover designs.	No clay resources available for rehabilitation. No benign waste rock available for rehabilitation.	Implement cover design using HDPE. Liner or alternative measure such as a geosynthetic clay liner. Excavate borrow pit within TSF footprint and salvage suitable material.	Within 10 weeks (estimated lead time) continue rehabilitation works as per schedule. Progress monitored and reported in Annual Report.
6	There are significant changes in geology, geochemistry or ore processing methods (over the life of mine) that materially change the composition of tailings, which may affect rehabilitation success.	Significant change in TSF decant water chemistry during operations (consistently >20% higher than historical range) for measured parameters. Significant changes to the ongoing AMD samples indicating Tailings are acidic (or saline). Identified in annual water quality monitoring program.	Immediate investigation to verify cause and impact on rehabilitation, seepage water quality etc.. Implement findings / recommendations from investigation.	Investigation commenced within 2 weeks. Implement recommendations as per investigation timeframes. Ongoing water quality sampling.
7	Insufficient benign material for placement in TSF decant areas	No benign waste rock available for rehabilitation. 0 projected net balance.	Excavate borrow pit within TSF footprint and salvage suitable material. or Re-sample and assess the use of PAF waste (with amelioration options) for use.	Within 10 weeks continue rehabilitation works as per schedule. Progress monitored and reported in Annual Review.

TARP	Threat to Rehabilitation Success	Trigger	Action / Response*	Timeframes / Monitoring
8	Engineered design is not effective in sealing vent shafts.	Inspections identify seepage into shaft, or damage / wear to concrete pad / surrounds. Inspection and record.	Exclude livestock. Correct / divert drainage. Erect man-proof fence around pad. Investigate failure and re-engineer slab and implement.	Immediate notification of site personnel. Temporary barricades and signs installed within 24 hours. Livestock excluded within 24 hours. Drainage corrected / diverted within 10 business days. Fenced within 40 days. Re-engineer slab and implement (within 6 months).
9	Portal seals are not effective in preventing seepage.	Inspections identify seepage into portal or from portal. Inspection and record.	Investigation into failure mechanisms. Implement findings / recommendations from investigation (excavation and re-sealing of portal).	Investigation commenced within 2 weeks. Portal excavated and re-sealed within 6 months.
10	Contaminated lands remain un-remediated leading to failed rehabilitation and pollution.	Inspections identify failed revegetation and evidence of contamination (as likely cause). Inspection and record.	Undertake contamination assessment. Undertake remediation and validation of identified area.	Assessment completed within 60 days. Remediation completed within 18 months. Validation sampling conducted and report produced.
11	Agreement cannot be reached on the future use of water infrastructure (ownership and responsibility).	Negotiations fail. There is no agreement for a regional water reticulation network. Record of meetings / discussions.	Determine alternate closure scenario for water infrastructure / network (refer to infrastructure domain). Notify Secretary DPHI for resolution / assistance.	RMP, closure plans updated within 3 months of failed negotiations.
12	Water quality from the STSF seepage collection pond does not meet Water Management Plan guideline values as predicted in the Ridgeway EIS.	Water quality in STSF seepage collection pond exceeds Water Management Plan guideline values at CAWS63 for 3 consecutive monthly samples.	Return water infrastructure to remain in place. Continue pumping of water from pond to STSF as current (or to alternate location such as Cadia Hill Pit TSF, Rodds Creek Dam). Implement containment / treatment options.	Continue pumping as current. Containment and / or treatment options implemented within 6 months. Monthly water quality sampling and assessment against guideline values.

TARP	Threat to Rehabilitation Success	Trigger	Action / Response*	Timeframes / Monitoring
13	A suitable heritage management agency is not willing to take on responsibility for management and maintenance of, and access to, heritage structures as stated in this plan.	Negotiations fail. There is no agreement for ongoing ownership, management and maintenance. Record of meetings / discussions.	Determine alternate closure scenario for Heritage assets. Notify Secretary DPHI for resolution / assistance.	RMP, closure plans updated within 3 months of failed negotiations.
14	Sufficient topsoil quantities are not available to achieve all rehabilitation objectives.	No topsoil available for rehabilitation. Triggered via annual reconciliation and projection showing negative balance.	Identify and strip areas of lower value material / alternate material such as subsoils within TSF inundation areas (if available). Reduce spread depth to 15cm.	Positive balance achieved within 12 months. Tracked through annual topsoil reconciliation / balance. Appropriate ameliorants added to poorer quality topsoil or subsoil material.
15	Bushfire impacts upon rehabilitation	Occurrence of unplanned bushfire in rehabilitation areas.	Monthly monitoring of the recovery of species. Re-plant, re-sow if required.	Monthly monitoring commenced within 4 weeks of fire. Replanting / re-sowing within 12 months if required.
16	Major storm (flooding) event impacts on rehabilitation, results in significant erosion, sedimentation and slope instability.	Inspections and/or modelling following major rainfall events identifies significant erosion, scouring, loss of vegetation cover. Inspection and record.	Repair of erosion, reinstatement of drainage systems, topsoil and seeding / planting where required.	Repairs undertaken within 4 months. Monitored via 6 monthly inspections. Monitored via LiDAR-based erosion assessment and surface water modelling.
17	Erosion and drainage controls are ineffective, resulting in slope instability / failed landforms.	6 monthly inspections identify significant erosion, scouring, slumping, or loss of vegetation cover. Monitoring via LiDAR-based erosion assessment and surface water modelling identifies significant erosion, scouring, slumping, or loss of vegetation cover. Inspection and record.	Modification of drainage control designs. Repair of erosion, reinstatement of drainage systems, topsoil and seeding / planting, erosion control products applied, where required.	Repairs undertaken within 6 months. Monitored via 6 monthly inspections. Monitoring via LiDAR-based erosion assessment and surface water modelling.

TARP	Threat to Rehabilitation Success	Trigger	Action / Response*	Timeframes / Monitoring
18	Severe and prolonged drought impacts on rehabilitation success.	Vegetation growth to climax community fails to meet (or not progressing towards) mine completion criteria (analogue sites). Identified via annual assessment reported in Annual Report).	6 monthly monitoring of the recovery of species. Re-plant, re-sow if required. Water plants in the early stages of growth (where feasible).	6 monthly monitoring Replanting / re-sowing within 12 months if required.
19	Inadequate soil fertility results in stunted / failed rehabilitation.	Vegetation growth to climax community fails to meet (or not progressing towards) mine completion criteria (analogue sites). Identified via annual rehabilitation monitoring assessment. 6 monthly inspections identify rehabilitation is not progressing on a trajectory to other areas completed in campaign.	Immediate investigation to verify cause (including soil chemistry testing). Apply fertiliser or suitable ameliorants. Modify ongoing schedule of fertiliser type and frequency. Re-plant, re-sow if required.	Investigation completed within 4 weeks. Fertiliser or suitable ameliorants applied within 12 weeks. Correction identified via ongoing annual assessment against analogue sites.
20	Unauthorised access, grazing or disturbance impacts revegetation success.	6 monthly inspections identify unauthorised access that results in damage to rehabilitation Inspection and record.	Immediate investigation to verify cause. Corrective actions implemented such as fencing, education of workforce, erection of physical barriers, replanting, re-sowing.	Investigation completed within 2 weeks. Corrective actions implemented within 6 months. 6 monthly monitoring/inspections.
21	Inadequate resources (financial, human, equipment) leading to rehabilitation commitments and objectives not being met.	Quarterly tracking by Environment Lead identifies commitments and work programs are not being met.	Review and apply additional resources as required to meet commitments and objectives.	Resources reviewed and adjusted within 3 months. Quarterly review against work programs and commitments.

TARP	Threat to Rehabilitation Success	Trigger	Action / Response*	Timeframes / Monitoring
22	Unauthorised access to voids.	Evidence of unauthorised access to voids.	Inspection of fence, bund, trench and signs. Initiate repair of bund, trench, fence as required. Implement security patrols / increased inspection regime.	Inspect fence, bund and trench within 24 hours. Temporary bunding installed within 24 hours of inspection (if required). Repairs undertaken within 1 week (if required). Increased inspection regime / security patrol implemented.
23	Rehabilitated landforms in proximity to Subsidence Zones direct water into the Subsidence Zones.	Evidence of bund failure surrounding the subsidence zone.	Inspection of bund. Initiate repair of bund and drainage structures surrounding bund to ensure flow reports to the required area. Implement increased inspection regime.	Inspect bund within 24 hours. Temporary bunding installed within 24 hours of inspection (if required, e.g. if significant rainfall is expected). Repairs undertaken within 1 week (if required). Increased inspection regime.
24	Extended water ponding being observed in the post mining land form.	Quarterly inspections identify extended water ponding. Inspection and record. Annual rehabilitation monitoring.	Immediate investigation to verify cause. Appropriately qualified engineer to be utilised to assess and re-design landforms (if required). Landform designed to be free draining.	Repairs to rectify drainage undertaken within 6 months. Monitored via 6 monthly inspections.
25	Tailings leakage into Cadiangullong Creek from Pit TSF from 694m AHD (water level).	Weekly water level inspection. Bathymetric survey completed every 6 months. Groundwater monitoring in the surrounding bore network.	No tailings deposition in PTSF past 694m AHD until risk mitigation measures are confirmed and in place.	Investigation completed within 2 weeks. Corrective actions implemented within 6 months. Weekly monitoring until corrective actions are determined to be effective.
*	*Each trigger would require notification to the NSW RR and a review of the RMP.			

11 PART 11 – REVIEW, REVISION AND IMPLEMENTATION

11.1 Rehabilitation Management Plan Review and Revision

To ensure this RMP remains current, a number of triggers are in place that may necessitate the review and update of the RMP. Statutory triggers and voluntary triggers are summarised in the **Table 25**.

Table 25. RMP Review Triggers

Trigger	Source
Statutory Triggers	
As a consequence of an amendment made to the rehabilitation objectives, rehabilitation completion criteria or final landform and rehabilitation plan	NSW Mining Act Standard Conditions
To reflect any changes to the risk control measures in the rehabilitation management plan that are identified in a rehabilitation risk assessment	
Whenever directed in writing to do so by the Secretary	
Voluntary	
Activation of any of the triggers in **Section 10**	Cadia Rehabilitation Management Plan.
Completion of key studies, models, research or new information is available to update rehabilitation methodologies (**Section 9**).	

11.2 Rehabilitation Management Plan Implementation

11.2.1 Responsibilities

The General Manager is responsible for ensuring overall responsibility with rehabilitation compliance and mining lease conditions.

The Manager – Environment, is directly accountable (ownership of the plan) for the development, review and implementation of the RMP. The Manager is also responsible for ensuring that adequate budget and resources are available for the implementation of the plan.

11.2.2 Implementation

The Lead – Environment is responsible for the implementation of the plan.

Tracking the implementation of the Rehabilitation Management Plan will be undertaken using Cadia's internal obligations register. Key actions arising from the RMP are identified and entered into the obligations register. Within the obligations register, the action or task is assigned to the responsible officer (employee), with a time frame for completion. Once the task is completed it is verified by the Supervisor. Any tasks that are not completed by the due date are either:

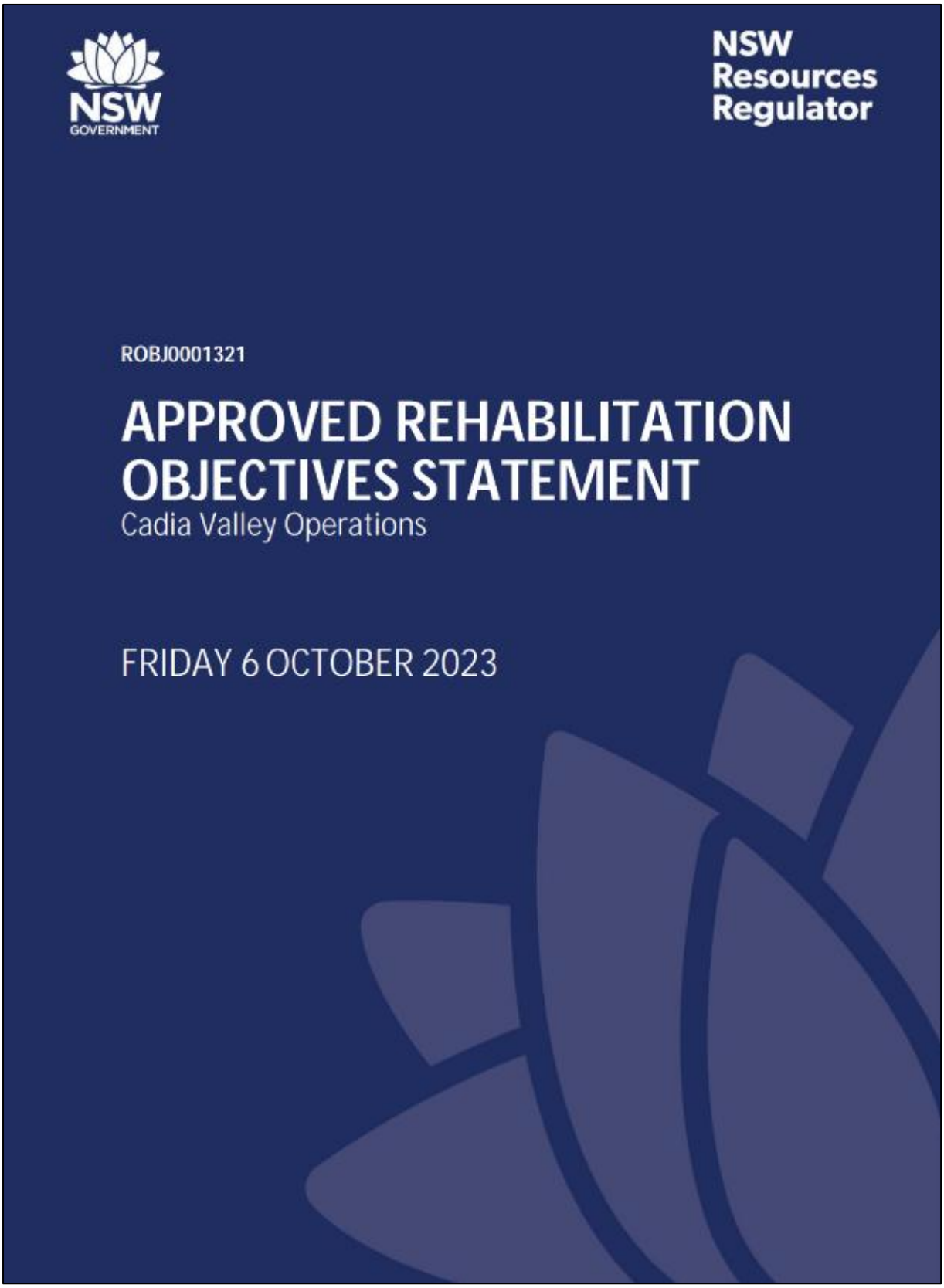
- Escalated to the manager; or
- An application is made to extend the action with a new and agreed timeframe, which is approved by the Supervisor.

12 REFERENCES

- Cadia Holdings Pty. Ltd. (1995) Cadia Gold Mine Environmental Impact Statement. Report prepared by AGC Woodward-Clyde Pty Ltd.
- Cadia Holdings Pty Limited (2000) Ridgeway Project Environmental Impact Statement. Report prepared by Resource Strategies.

- Cadia Holdings Pty Limited (2009). Environmental Assessment Cadia East Project. Volumes I and II.
- Cadia Holdings Pty. Limited (2010) Annual Environmental Management Report.
- Cadia Holdings Pty Ltd (2023) Water Management Plan (Appendix H, Page 6)
- Cadia Holdings Pty Ltd (2021) 2020-21 Annual Environment Management Report (October 2021)
- Cadia Holdings Pty. Limited (2022) Annual Environmental Management Report
- Cadia Holdings Pty. Limited (2021a) 2019 - 2022 Mining Operations Plan
- Environmental Protection Authority (EPA). (2000). Environmental Guidelines – Use and Disposal of Biosolid Products.
- NEPC. (2013). National Environment Protection (Assessment of Site Contamination) Measure 1999. National Environment Protection Council.
- Newmont (2025a). Cadia Rehabilitation Strategy.
- Newmont (2025b). Cadia Biodiversity Management Plan.
- NSW RR (2025) Rehabilitation Management Plan for large Mines
- O'Kane Consultants (2010). Closure Planning Support Studies for the Cadia , South Waste Rock Dump
- Umwelt (2025). North and South Waste Rock Dumps FY 2026-FY2030 Rehabilitation Enhancement Strategy.
- WSP (2023a). Detailed design of water management mitigation measures of the north and south waste rock dumps in response to Section 240 notice (PS205778-WSP-AUS-NCS-MIN-REP-0001)
- WSP (2023b). Erosion and Water Management Infrastructure Assessment North and South Waste Rock Dumps (PS200668-WSP-AUS-NTL-MIN-REP-00001-A1)

APPENDIX A - APPROVED REHABILITATION OBJECTIVES STATEMENT


NSW GOVERNMENT
NSW Resources Regulator
ROBJ0001321
APPROVED REHABILITATION OBJECTIVES STATEMENT
Cadia Valley Operations
FRIDAY 6 OCTOBER 2023

APPROVED REHABILITATIONOBJECTIVES STATEMENT
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Reference	ROBJ0001321
Date of approval	Friday 6 October 2023
Mine	Cadia Valley Operations
Contact	David McQueeney

Important note

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

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Rehabilitation Objectives

The following rehabilitation objectives have been approved.

REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Bushfire	A1	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.
Ecological rehabilitation	A1	Ecosystem function demonstrates the rehabilitation is self-sustaining.
Ecological rehabilitation	A1	The vegetation composition of the rehabilitation contain species that are commensurate with native vegetation communities found in the local area including E. Albens - E. Melliodora - E. Blakelyi - E. Bridgesiana - E. goniocalyx woodland communities (1a, 2a, and 2b) and E. goniocalyx - E. macrorhyncha - E. viminalis - A. Acacia melanoxylon forest communities (3a, 3b and 4a). Reference to vegetation community numbers 1a, 2a, 2b, 3a, 3b and 4a can be found in Table 5-1 in the Cadia Rehabilitation Strategy.
Ecological rehabilitation	A1	The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area. These include E. Albens - E. Melliodora - E. Blakelyi - E. Bridgesiana - E. goniocalyx (1a, 2a, and 2b) woodland communities and E. goniocalyx - E. macrorhyncha - E. viminalis - A. Acacia melanoxylon forest communities (3a, 3b and 4a). Reference to vegetation community numbers 1a, 2a, 2b, 3a, 3b and 4a can be found in Table 5-1 in the Cadia Rehabilitation Strategy.
Groundwater	A1	Groundwater achieves quality objectives of Project Environment Protection Licence and approved management plans
Groundwater	A1	Impacts to groundwater regime are within range as predicted in pre-mining environmental assessment.

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Land contamination	A1	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	A1	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Management of waste and process materials	A1	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use
Removal of infrastructure	A1	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)
Removal of infrastructure	A1	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	A1	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Surface water	A1	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans
Bushfire	A2	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.
Ecological rehabilitation	A2	Ecosystem function demonstrates the rehabilitation is self-sustaining.
Ecological rehabilitation	A2	The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area. These include E. Albens - E. Melliodora - E. Blakelyi - E. Bridgesiana - E. goniocalyx (1a, 2a, and 2b) woodland communities and E. goniocalyx - E. macrorhyncha - E. viminalis - A. Acacia melanoxylon forest communities (3a, 3b and 4a). Reference to vegetation community numbers 1a, 2a, 2b, 3a, 3b and 4a can be found in Table 5-1 in the Cadia Rehabilitation Strategy.

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Ecological rehabilitation	A2	The vegetation composition of the rehabilitation contain species that are commensurate with native vegetation communities found in the local area including E. Albens - E. Melliodora - E. Blakelyi - E. Bridgesiana - E. goniocalyx woodland communities (1a, 2a, and 2b) and E. goniocalyx - E. macrorhyncha - E. viminalis - A. Acacia melanoxylon forest communities (3a, 3b and 4a). Reference to vegetation community numbers 1a, 2a, 2b, 3a, 3b and 4a can be found in Table 5-1 in the Cadia Rehabilitation Strategy.
Groundwater	A2	Impacts to groundwater regime are within range as predicted in pre-mining environmental assessment.
Groundwater	A2	Groundwater achieves quality objectives of Project Environment Protection Licence and approved management plans
Land contamination	A2	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	A2	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Management of waste and process materials	A2	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use
Removal of infrastructure	A2	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	A2	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Retention of infrastructure	A2	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Surface water	A2	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans
Bushfire	A3	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.
Ecological rehabilitation	A3	The vegetation composition of the rehabilitation contain species that are commensurate with native vegetation communities found in the local area including E. Albens - E. Melliodora - E. Blakelyi - E. Bridgesiana - E. goniocalyx woodland communities (1a, 2a, and 2b) and E. goniocalyx - E. macrorhyncha - E. viminalis - A. Acacia melanoxylon forest communities (3a, 3b and 4a). Reference to vegetation community numbers 1a, 2a, 2b, 3a, 3b and 4a can be found in Table 5-1 in the Cadia Rehabilitation Strategy.
Ecological rehabilitation	A3	The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area. These include E. Albens - E. Melliodora - E. Blakelyi - E. Bridgesiana - E. goniocalyx (1a, 2a, and 2b) woodland communities and E. goniocalyx - E. macrorhyncha - E. viminalis - A. Acacia melanoxylon forest communities (3a, 3b and 4a). Reference to vegetation community numbers 1a, 2a, 2b, 3a, 3b and 4a can be found in Table 5-1 in the Cadia Rehabilitation Strategy.
Ecological rehabilitation	A3	Levels of ecosystem function have been established that demonstrate the rehabilitation is self-sustaining.
Ecological rehabilitation	A3	The vegetation structure of the rehabilitation is similar to that of native riparian communities found in the local area (e.g. River Sheoak Forest and/or open woodland dominated by E. viminalis, E. melliodora and E. bridgesiana).
Ecological rehabilitation	A3	The vegetation composition of the rehabilitation contains species are commensurate with native riparian communities found in the local area (e.g. River Sheoak Forest and/or open woodland dominated by E. viminalis, E. melliodora and E. bridgesiana).

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Ecological rehabilitation	A3	Ecosystem function demonstrates the rehabilitation is self-sustaining.
Groundwater	A3	Groundwater achieves quality objectives of Project Environment Protection Licence and approved management plans
Groundwater	A3	Impacts to groundwater regime are within range as predicted in pre-mining environmental assessment.
Land contamination	A3	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	A3	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Management of waste and process materials	A3	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use
Removal of infrastructure	A3	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Removal of infrastructure	A3	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)
Removal of infrastructure	A3	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Surface water	A3	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans
Bushfire	A4	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Ecological rehabilitation	A4	Ecosystem function demonstrates the rehabilitation is self-sustaining.
Ecological rehabilitation	A4	The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area. These include E. Albens - E. Melliodora - E. Blakelyi - E. Bridgesiana - E. goniocalyx (1a, 2a, and 2b) woodland communities and E. goniocalyx - E. macrorhyncha - E. viminalis - A. Acacia melanoxylon forest communities (3a, 3b and 4a). Reference to vegetation community numbers 1a, 2a, 2b, 3a, 3b and 4a can be found in Table 5-1 in the Cadia Rehabilitation Strategy.
Ecological rehabilitation	A4	The vegetation composition of the rehabilitation contain species that are commensurate with native vegetation communities found in the local area including E. Albens - E. Melliodora - E. Blakelyi - E. Bridgesiana - E. goniocalyx woodland communities (1a, 2a, and 2b) and E. goniocalyx - E. macrorhyncha - E. viminalis - A. Acacia melanoxylon forest communities (3a, 3b and 4a). Reference to vegetation community numbers 1a, 2a, 2b, 3a, 3b and 4a can be found in Table 5-1 in the Cadia Rehabilitation Strategy.
Groundwater	A4	Impacts to groundwater regime are within range as predicted in pre-mining environmental assessment.
Groundwater	A4	Groundwater achieves quality objectives of Project Environment Protection Licence and approved management plans
Land contamination	A4	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	A4	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Management of waste and process materials	A4	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Removal of infrastructure	A4	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	A4	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Surface water	A4	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans
Bushfire	A5	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.
Ecological rehabilitation	A5	The vegetation composition of the rehabilitation contain species that are commensurate with native vegetation communities found in the local area including E. Albens - E. Melliodora - E. Blakelyi - E. Bridgesiana - E. goniocalyx woodland communities (1a, 2a, and 2b) and E. goniocalyx - E. macrorhyncha - E. viminalis - A. Acacia melanoxylon forest communities (3a, 3b and 4a). Reference to vegetation community numbers 1a, 2a, 2b, 3a, 3b and 4a can be found in Table 5-1 in the Cadia Rehabilitation Strategy.
Ecological rehabilitation	A5	The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area. These include E. Albens - E. Melliodora - E. Blakelyi - E. Bridgesiana - E. goniocalyx (1a, 2a, and 2b) woodland communities and E. goniocalyx - E. macrorhyncha - E. viminalis - A. Acacia melanoxylon forest communities (3a, 3b and 4a). Reference to vegetation community numbers 1a, 2a, 2b, 3a, 3b and 4a can be found in Table 5-1 in the Cadia Rehabilitation Strategy.
Ecological rehabilitation	A5	Ecosystem function demonstrates the rehabilitation is self-sustaining.
Groundwater	A5	Impacts to groundwater regime are within range as predicted in pre-mining environmental assessment.

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Groundwater	A5	Groundwater achieves quality objectives of Project Environment Protection Licence and approved management plans
Land contamination	A5	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	A5	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Management of waste and process materials	A5	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use
Removal of infrastructure	A5	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	A5	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Retention of infrastructure	A5	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)
Surface water	A5	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans
Bushfire	A7	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.
Groundwater	A7	Impacts to groundwater regime are within range as predicted in pre-mining environmental assessment.
Groundwater	A7	Groundwater achieves quality objectives of Project Environment Protection Licence and approved management plans

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Land contamination	A7	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	A7	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Management of waste and process materials	A7	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use
Removal of infrastructure	A7	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	A7	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Retention of infrastructure	A7	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)
Surface water	A7	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans
Agricultural revegetation	B1	Revegetation is sustainable for the long-term and only requires maintenance that is consistent with the intended final land use.
Agricultural revegetation	B1	Land use capability is capable of supporting the target agricultural land use.
Bushfire	B1	The risk of grassfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.
Groundwater	B1	Impacts to groundwater regime are within range as predicted in pre-mining environmental assessment.

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Groundwater	B1	Groundwater achieves quality objectives of Project Environment Protection Licence and approved management plans
Land contamination	B1	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	B1	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Management of waste and process materials	B1	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use
Removal of infrastructure	B1	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	B1	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Retention of infrastructure	B1	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)
Surface water	B1	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans
Ecological rehabilitation	F1	The vegetation composition includes presence of target native wetland species that are fit to perform the function required of a constructed wetland (target species to be determined following further studies).
Land contamination	F1	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	F1	Final landform is stable for the long-term and does not present a risk of environmental harm

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		downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Management of waste and process materials	F1	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use
Removal of infrastructure	F1	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	F1	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)
Retention of infrastructure	F1	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Surface water	F1	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans
Water approvals	F1	Dams are appropriately licensed (e.g. under the Water Management Act 2000) to take water and where required ensure sufficient licence shares are held in the water source(s) to account for water take.
Ecological rehabilitation	F3	Ecosystem function demonstrates the rehabilitation is self-sustaining.
Ecological rehabilitation	F3	The vegetation composition includes presence of target native wetland species that are fit to perform the function required of a constructed wetland (target species to be determined following further studies).
Land contamination	F3	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	F3	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Removal of infrastructure	F3	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	F3	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)
Retention of infrastructure	F3	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Surface water	F3	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans
Water approvals	F3	Dams are appropriately licensed (e.g. under the Water Management Act 2000) to take water and where required ensure sufficient licence shares are held in the water source(s) to account for water take.
Ecological rehabilitation	F4	The vegetation composition includes presence of target native wetland species that are fit to perform the function required of a constructed wetland (target species to be determined following further studies).
Land contamination	F4	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	F4	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Removal of infrastructure	F4	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	F4	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Retention of infrastructure	F4	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Surface water	F4	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans
Water approvals	F4	Dams are appropriately licensed (e.g. under the Water Management Act 2000) to take water and where required ensure sufficient licence shares are held in the water source(s) to account for water take.
Land contamination	G3	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	G3	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Removal of infrastructure	G3	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	G3	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Retention of infrastructure	G3	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)
Surface water	G3	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans
Water approvals	G3	Dams are appropriately licensed (e.g. under the Water Management Act 2000) to take water and where required ensure sufficient licence shares are held in the water source(s) to account for water take.

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Retention of infrastructure	H8	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)
Retention of infrastructure	H8	All infrastructure that is approved to remain for the final land use is safe and does not pose any hazard to the community.
Groundwater	J2	Impacts to groundwater regime are within range as predicted in pre-mining environmental assessment.
Groundwater	J2	Groundwater achieves quality objectives of Project Environment Protection Licence and approved management plans
Land contamination	J2	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	J2	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Management of waste and process materials	J2	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use
Removal of infrastructure	J2	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	J2	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)
Retention of infrastructure	J2	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Surface water	J2	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Water approvals	J2	Final void is appropriately licensed (e.g. under the Water Management Act 2000) to take water and where required ensure sufficient licence shares are held in the water source(s) to account for water take.
Bushfire	J5	The risk of grassfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.
Groundwater	J5	Impacts to groundwater regime are within range as predicted in pre-mining environmental assessment.
Groundwater	J5	Groundwater achieves quality objectives of Project Environment Protection Licence and approved management plans
Land contamination	J5	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	J5	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Management of waste and process materials	J5	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use
Removal of infrastructure	J5	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	J5	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)
Retention of infrastructure	J5	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.
Surface water	J5	Surface water runoff achieves quality objectives of Project Environment Protection Licence

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		and approved project management plans
Water approvals	J5	Final void is appropriately licensed (e.g. under the Water Management Act 2000) to take water and where required ensure sufficient licence shares are held in the water source(s) to account for water take.
Bushfire	J6	The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.
Groundwater	J6	Groundwater achieves quality objectives of Project Environment Protection Licence and approved management plans
Groundwater	J6	Impacts to groundwater regime are within range as predicted in pre-mining environmental assessment.
Land contamination	J6	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm
Landform stability	J6	Final landform is stable for the long-term and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.
Management of waste and process materials	J6	Residual waste materials stored on site will be appropriately contained / encapsulated to prevent contamination that constrains final intended land use
Removal of infrastructure	J6	All infrastructure that is not required for the final land use is to be removed and the land left safe and free of hazardous materials.
Retention of infrastructure	J6	All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)
Retention of infrastructure	J6	All infrastructure that is to remain as part of the final land use is safe and does not pose any hazard to the community.

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REHABILITATION OBJECTIVE CATEGORY	SPATIAL REFERENCE	REHABILITATION OBJECTIVES
Surface water	J6	Surface water runoff achieves quality objectives of Project Environment Protection Licence and approved project management plans
Water approvals	J6	Final void is appropriately licensed (e.g. under the Water Management Act 2000) to take water and where required ensure sufficient licence shares are held in the water source(s) to account for water take.

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