PRCP schedule

Environmental Protection Act 1994

P-PRCP-100695680 Callide Coal Mine

This PRCP schedule is issued by the administering authority under Chapter 5 of *the Environmental Protection Act 1994.*

PRCP schedule: P-PRCP-100695680_v2

PRCP schedule holder(s)

Name(s)	Registered address
Batchfire Callide Pty Ltd	Suite 2, Level 11, 141 Queen Street, Brisbane City QLD 4000 Australia
Batchfire Callide No.2 Pty Ltd	Suite 2, Level 11, 141 Queen Street, Brisbane City QLD 4000 Australia

Location details

Location(s)
Mining Lease (ML): ML5632, ML5641, ML5653, ML5654, ML5655, ML5662, ML6993, ML6994, ML700059, ML80030, ML80092, ML80093, ML80107, ML80115, ML80117, ML80118, ML80122, ML80151, ML80186

Take effect

Pursuant to section 202C of the *Environmental Protection Act 1994,* a PRCP schedule continues in force until the environmental authority for the relevant activities to which the PRCP schedule relates is cancelled or surrendered, even if the resource tenure expires or is cancelled and even if the relevant environmental authority is suspended under Chapter 5, part 11 or 11A of the *Environmental Protection Act 1994*.

Signature

21 August 2026

Date

Ben Byrd

Department of the Environment, Tourism, Science and Innovation
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:

Business Centre Coal
PO Box 3028, Emerald QLD 4720
Phone: (07) 4987 9320
Email: CRMining@detsi.qld.gov.au

Obligations under the *Environmental Protection Act 1994* (EP Act)

Pursuant to section 202E of the EP Act, if there is an inconsistency between an environmental authority and a PRCP schedule, the environmental authority prevails to the extent of the inconsistency.

Pursuant to section 285 of the EP Act:

- the holder of a PRCP schedule must commission an audit of the schedule if the administering authority directs the holder, by written notice (a *PRCP schedule audit notice*), to commission an audit of the schedule.
- the holder must, within 4 months after the PRCP schedule audit notice is given, provide the administering authority –
  (a) the rehabilitation auditor's report (an audit report) about the audit that complies with section 286 of the EP Act, and
  (b) a declaration for the audit report that complies with section 285 of the EP Act.

In addition to the requirements found in the conditions of this PRCP schedule, the holder must also meet their obligations under the environmental authority, the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the EP Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443).

PRCP schedule

The PRCP schedule incorporates the following sections:

1. Section A – Conditions of PRCP schedule
2. Section B – Definitions
3. Section C – Final site design and reference maps
4. Section D – Post mining land uses
5. Section E – Non-use management areas
6. Section F – Attachments

1 Section A - Conditions of PRCP schedule

Pursuant to section 206A of the EP Act:

- it is a condition of this PRCP schedule that, in carrying out a relevant activity under the schedule, the holder must comply with a requirement stated in the environmental authority relevant to carrying out the activity.
- it is a condition of this PRCP schedule that the holder must comply with the following matters stated in the schedule -
  (a) each rehabilitation milestone and management milestone; and
  (b) when each rehabilitation milestone and management milestone is to be achieved.

General conditions

PRCP1 All mining disturbance authorised under EA EPML00720413 must have an associated rehabilitation outcome provided in this PRCP Schedule.

PRCP2 The holder must for each rehabilitation and improvement area, achieve the rehabilitation or management milestone criteria (milestone reference):

(a) for the cumulative area available specified in this schedule; and

(b) by the milestone completion date specified in this schedule.

PRCP3 Where land becomes 'available for rehabilitation', earlier than the date nominated in this schedule, the holder must:

(a) notify the administering authority in writing within **30 days** of the land becoming 'available for rehabilitation';

(b) describe in the notification why or why not it considers that it would be reasonable and appropriate to apply to the administering authority to amend this schedule; and

(c) unless otherwise agreed to by the administering authority in writing, apply to the administering authority within **60 days** of the notification to amend this schedule in a way that maximises the progressive rehabilitation to a stable condition.

Notes:

(1) Reference to "earlier than the nominated date in the schedule" means a date that is greater than **1 year** prior to the date nominated in the schedule.
(2) Assessment of land becoming available is undertaken on a nominally annual basis.
(3) Rehabilitation of land size must be practicable and economical.
(4) The dates by which milestones are to be completed is brought forward, to the extent it is reasonably practicable to do so, by the same amount of time as the commencement was brought forward.

PRCP4 Where an area achieves a rehabilitation or management milestone, the holder must continue to achieve the milestone criteria until a surrender is approved.

PRCP5 The holder must maintain a risk register that identifies the risks to not achieving:

(a) a stable condition for post-mining land uses (PMLUs);

(b) sufficient improvement for non-use management areas (NUMAs); and

(c) how the risks are being managed or minimised.

PRCP6 The risk register required under **PRCP5** must be reviewed annually and include consideration of the outcomes of PRCP monitoring data.

PRCP7 The holder must carry out monitoring in accordance with:

(a) the monitoring and maintenance program described in the rehabilitation planning part for the activity;

(b) any requirement under this schedule; and

(c) as necessary to demonstrate achievement of each rehabilitation milestone or management milestone criteria.

Note: Where there is any inconsistency between this schedule and the rehabilitation planning part, the schedule criteria prevail to the extent of the inconsistency.

PRCP8 The holder must make and keep up to date records on:

(a) achievement and ongoing maintenance of each rehabilitation or management milestone criteria relating to this schedule;

(b) rehabilitation activities and the results of those activities (including but not limited to, actions taken, date, location, methods, data collected, Quality Assurance/Quality Control, photos, waste tracking and disposal records, appropriately qualified person details and assumptions);

(c) maintenance of rehabilitation and the results of maintenance activities;

(d) monitoring of rehabilitation and the results of monitoring;

(e) details and results of rehabilitation trials;

(f) designs, drawings, specifications and any similar documents developed in accordance with good professional practice in relation to rehabilitation milestones or milestone criteria;

(g) all documents in relation to the requirements of this schedule, including reports (e.g. site investigation report), statements (e.g. site suitability statement), certifications, assessments, investigations, inspections, audits or any similar documents developed in relation to rehabilitation milestones or milestone criteria;

(h) landholder agreements; and

(i) details of community consultation in the community consultation register relating to rehabilitation and closure activities.

PRCP9 Records made under **PRCP8** must be kept until the relevant environmental authority has been surrendered or cancelled.

PRCP10 Records made under **PRCP8** must be provided to the administering authority in the specified format within **10 business days** of a written request.

PRCP11 All AQP designs, specifications, certifications, assessments and any similar documents, must:

(a) include documented consideration of any relevant guideline or publication material, including material published by the administering authority;

(b) detail the boundary conditions (of any model);

(c) detail any assumptions made, limitations and areas of uncertainty; and

(d) must contain sufficient detail to allow for independent peer review and substantiation.

PRCP12 Disturbance due to exploration and minor ancillary activities in areas not planned to be mined and not within a Rehabilitation Area in this Schedule must be rehabilitated in accordance with the provisions detailed in the '*Eligibility criteria and standard conditions for exploration and mineral development projects'* or its successor, with the exception that land must be rehabilitated to a stable condition which includes achieving the relevant post mining land use for the disturbance location as detailed in **Schedule Figure 1: Dunn Creek – Post Mining Land Use**; **Schedule Figure 2: Trap Gully Post Mining Land Use; Schedule Figure 3: The Hut Post Mining Land Use**; and **Schedule Figure 4: Boundary Hill Post Mining Land Use**.

PRCP13 The PRC plan groundwater model must be recalibrated and the post closure groundwater modelling and final void water balance modelling predictions rerun:

(a) and submitted to the administering authority by **31 July 2028**;

(b) at least every **10 years** thereafter;

(c) if the final landform design changes or if the mine progression varies substantially in a way that would significantly affect the post closure groundwater modelling or final void water balance modelling;

(d) if an AQP determines that there is significant deviation between predictions and the post closure groundwater modelling or final void water balance modelling and ongoing monitoring (as confirmed by **10 December** every year); and

(e) within the **3 years** prior to the date of submission of any surrender application.

PRCP14 The holder must:

(a) engage an AQP to develop a post closure groundwater and final void lake monitoring program based on the modelling predictions required by **PRCP13(a)**. The post closure groundwater and final void lake monitoring program must include (but is not limited to):

(i) groundwater and void lake monitoring locations and frequencies; and

(ii) groundwater level and quality trigger thresholds.

(b) within **12 months** of finalisation of the modelling predictions required by **PRCP13**, submit to the administering authority an updated PRC plan that includes:

(i) the updated long term post mining prediction modelling for drawdown and groundwater level elevations;

(ii) the updated void water balance modelling; and

(iii) the post closure groundwater and final void lake monitoring program.

(c) Submit an application to amend the groundwater quality monitoring locations and limits in **Section F Appendix 6 Table 9 – Interim Groundwater monitoring locations**, **Section F Appendix 6 Table 10 – Interim Groundwater quality limits** and **Section F Appendix 6 Table 11 – Interim Groundwater pH and EC limits** of the PRCP schedule if required when sufficient data points have been collected.

PRCP15 If the groundwater model and final void water balance model predictions required by **PRCP13** identify any final voids that are not predicted to be permanent groundwater sinks:

(a) an impact assessment must be undertaken and a management strategy developed for the affected final voids by an AQP; and

(b) an application to amend the PRCP schedule and the PRC plan to implement the management strategy for the affected final voids must be submitted to the administering authority within **24 months** of the finalisation of the modelling predictions.

PRCP16 Complete landform evolution modelling (LEM) for the PRC plan and provide to the administering authority by **31 July 2028**. The updated modelling must:

(a) be in accordance with the latest version of the Queensland Government's 'Applying erosion and Landscape Evolution Models to assess post-mining landform stability: Technical Paper';

(b) cover a **100-year period**, including relevant time steps[1];

(c) identify whether contour banks and engineered structures are required to achieve stable landform; and

(d) be for PMLU Future Rehabilitation only (RA3, RA4 and RA5).

PRCP17 If LEM conducted under **PRCP16** demonstrates landform instability, an amendment application to this PRCP schedule and the PRC plan must be submitted to the administering authority to address the landform instability by **31 December 2028**.

PRCP18 By **31 July 2028**, complete an assessment of flood susceptibility and influence of flooding on the stability of the final landform undertaken by an AQP that must:

(a) evaluate the hydraulic interaction of the final landform, including the flood protection landform designed to provide immunity to at least 0.1% AEP flood events;

(b) identify and evaluate the hydraulic interactions between the final landform under extreme flood events (up to and including PMF);

(c) quantify the expected shear stresses, velocities, and depths of flow across the final landform;

(d) identify high-energy flow (≥2.5m/s); and

(e) consider impacts on the final rehabilitated landform and watercourses under extreme events (up to and including PMF) that are significantly different to impacts to the surrounding environment exposed to the flood.

[1] Queensland Government's 'Applying erosion and Landscape Evolution Models to assess post-mining landform stability: Technical Paper' identifies that erosion form and rate can be examined at any time step needed but suggests that for most sites model output should be initially examined at 10 and 100 years

PRCP19 An amendment application to this PRCP schedule and the PRC plan must be submitted to the administering authority by **31 December 2028** to:

(a) revise the version of **Schedule Figure 1: Dunn Creek – Post Mining Land Use**; **Schedule Figure 2: Trap Gully Post Mining Land Use**; **Schedule Figure 3: The Hut Post Mining Land Use**; and **Schedule Figure 4: Boundary Hill Post Mining Land Use** to include the flood plain extent for the relevant drainage lines and watercourses; and

(b) address any impacts and mitigations required to achieve stable condition, where flood modelling conducted under **PRCP18** demonstrates any of the following:

(i) Inundation of voids under 0.1% AEP flood events.

(ii) Unmitigated high-energy flow (≥2.5m/s).

(iii) Impacts on the final rehabilitated landform under extreme events (up to and including PMF) that are significantly different to impacts to the surrounding environment exposed to the flood.

(iv) Other impacts likely to prevent achievement of stable condition.

PRCP20 By **31 July 2036**, or another timeframe agreed to by the administering authority in writing, the holder must apply to the administering authority to amend the PRCP schedule to:

(a) replace the limits specified in **Section F Appendix 5 Table 8 – Interim Surface water quality limits** with the 80th percentile of monitoring data for upstream sites for physio-chemical indicators and the 95th percentile for toxicants; and

(b) remove quality characteristics listed in **Section F Appendix 5 Table 8 – Interim Surface water quality limits** from the monitoring program, where it can be adequately demonstrated that there is negligible environmental risk.

The application must be accompanied by supporting information that addresses the EP Act requirements for the PRCP amendment and must include:

(1) an assessment determining if the surface water monitoring network in **Section F Appendix 5 Table 7 – Interim Surface water monitoring locations** is fit for purpose; and

(2) monitoring results for surface water quality based on a minimum of 18 samples.

PRCP21 As required by rehabilitation milestones **RM6.7**, **RM7.6** and **RM8.8**, surface water quality must be monitored monthly during measurable flow at, but not limited to, the locations specified in **Section F Appendix 5 Table 7– Interim Surface water monitoring locations**, for all quality characteristics listed in **Section F Appendix 5 Table 8 – Interim Surface water quality limits**.

PRCP22 Surface water quality results, as monitored in accordance with condition **PRCP21** must not exceed the limits specified in **Section F Appendix 5 Table 8 – Interim Surface water quality limits** within the **five-year period** immediately prior to surrender, unless:

(a) when the applicable upstream site result is compared to the downstream site result, the quality result measured at a downstream site is equal to or less than the quality result measured at the applicable upstream site; or

(b) on no more than three occasions within the **5 years** prior to surrender, an independent AQP completes an assessment of the cause and risk of rehabilitation not achieving a stable condition within the schedule timeframe and provides the assessment to the administering authority within 3 months of receiving the relevant sampling results; and either:

(i) concludes there is a low risk to achieving a stable condition; or

(ii) concludes there is a risk greater than low to achieve a stable condition and changes or rectification actions to rehabilitation activities are determined and implemented within 6 months of the receiving the relevant sampling results.

PRCP23 As required by rehabilitation milestone **RM6.7**, **RM7.6** and **RM8.8**, groundwater quality must be monitored quarterly at, but not limited to, compliance bores specified in **Section F Appendix 6 Table 9 – Interim Groundwater monitoring locations**, for all quality characteristics listed in **Section F Appendix 6 Table 10 – Interim Groundwater quality limits** and **Section F Appendix 6 Table 11 – Interim Groundwater pH and EC Limits**.

PRCP24 Groundwater quality results as monitored according to condition **PRCP23** must not exceed the limits in **Section F Appendix 6 Table 10 - Interim groundwater quality limits** and **Section F Appendix 6 Table 11 – Interim Groundwater pH and EC Limits** for 3 consecutive results within the **five-year period** immediately prior to surrender.

PRCP25 **At least two years** prior to the applicable milestone dates for **MM3** for **IA1**, highwall stability must be assessed and geotechnical stability set back distances must be determined by an AQP for all highwalls within **IA1**. If a required setback distance determined by the AQP exceeds the applicable approved allowance for final void geotechnical setbacks within the NUMA area stated in **MM1** and shown in reference maps **Schedule Figure 5: Dunn Creek – Rehabilitation Areas (RAs) and Improvement Areas (IAs)**; **Schedule Figure 6: Trap Gully – Rehabilitation Areas (RAs) and Improvement Areas (IAs)**; **Schedule Figure 7: The Hut – Rehabilitation Areas (RAs) and Improvement Areas (IAs)**; and **Schedule Figure 8: Boundary Hill – Rehabilitation Areas (RAs) and Improvement Areas (IAs)**, the holder must apply to amend this schedule to increase the geotechnical setback distance/s and NUMA areas accordingly.

END OF CONDITIONS

2 Section B – Definitions

Appropriately qualified person (AQP)	means a person who has professional qualifications, training, skills and experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods or literature.
Activity (EP Regulation)	includes that part, if any, of an activity relating to the following— (a) preparing a place for the activity before carrying out the activity; (b) rehabilitating a place after it has been used for carrying out the activity.
BioCondition	refers to the *BioCondition Assessment Manual* (Eyre, T.J., Kelly, A.L, Neldner, V.J., Wilson, B.A., Ferguson, D.J., Laidlaw, M.J. and Franks, A.J. (2015)) and *BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland. Assessment Manual. Version 2.2* (Queensland Herbarium, Department of Science, Information Technology, Innovation and Arts, Brisbane) or later versions thereof.
Contaminants	can be a gas, liquid or solid; or an odour; or an organism (whether alive or dead), including a virus; or energy, including noise, heat, radioactivity and electromagnetic radiation; or a combination of contaminants.
Environmentally problematic material	means material that will negatively impact water quality and stability or vegetation growth.
Flood stress	is the pressure on structures from rapid water rise, erosion, and saturation during extreme floods, risking instability.
Groundcover	means anything in contact with the soil surface including live cover, standing dry cover, organic litter (including leaves, hay, woody debris) or rocks.
Groundwater dependent feature	groundwater dependent ecosystems (GDEs), springs, stygofauna habitat, stock and domestic bores and groundwater-supported wetlands.
Growth media	is defined as all soil and soil-like material that will support the final vegetation cover. This includes the topsoil and subsoil where these materials are applied independently. Where the topsoil is incorporated into the underlying subsoil/spoil, topsoil refers to the depth of incorporation and the remaining depth is regarded as subsoil. The total depth of growth media is nominally considered to be the effective plant root zone.
Gully	a gully is a channel excavated by water, more than 0.3 m deep.
Independent AQP	is an AQP who is a third party, being independent of the PRCP schedule holder, and has not previously provided advice on the matter the subject of the review.
Independently peer reviewed	means a peer reviewer who is a third-party to the PRCP schedule holder and the AQP whose report is being reviewed and substantiated. The peer reviewer shall also be an AQP and documentation provided must contain sufficient detail to allow for independent technical review and substantiation and provide and justify site-specific landform performance (SMART) criteria.
Minor ancillary activities	tracks, fences, firebreaks and communications infrastructure.
Native	means vegetation occurring naturally within Regional Ecosystems (RE) 11.10.13 and 11.3.25 and/or listed in the relevant Regional Ecosystem technical description.
Potentially acid forming (PAF)	means material with either a Net Acid Producing Potential of greater than 5 kg of H_2SO_4/tonne or a Net Acid Generation oxidation pH of less than 4.5 (pH unit).

Registered Professional Engineer of Queensland (RPEQ)	registration as a registered professional engineer of Queensland (RPEQ) demonstrates an engineer's qualification, competency and experience and ongoing commitment to development and learning.
Rehabilitation activity	means any activity that the holder is required to carry out in relation to this PRCP schedule.
Relevant material	includes: (a) final landform design report, (b) durability assessment/ report, (c) "as Constructed" report; (d) all monitoring data (e) assessment of monitoring data, (f) all maintenance records; and (g) modelling and technical assessments.
Relevant structure	overburden/spoil emplacements, waste rock dumps, residual voids and permanent diversions.
Rill	a rill is a channel excavated by water, less than 0.3 m deep.
Stable	in relation to land, means landform dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of environmental context, geotechnical stability, settlement and consolidation allowances, bearing capacity (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.
Stabilised	means one or both of the following conditions apply: no evidence of sediment movement; sides and/or floors of erosion form are revegetated (Australian Soil and Land Survey Field Handbook Fourth Edition).
Stable condition	see section 111A of the *Environmental Protection Act 1994*.
Suitably qualified and experienced person (SQP)	for performing a regulatory function under chapter 7, part 8 (Contaminated Land) of the EP Act or another function prescribed under a regulation, means a person who— (a) has qualifications and experience relevant to performing the function; and (b) if a regulation prescribes an organisation for this paragraph—is a member of the organisation.
Vegetative groundcover	means plants, plant litter, tree leaf litter, twigs and woody debris capable of protecting the soil surface from erosion.
Weed	(a) category 3 restricted invasive plant species, defined by the *Biosecurity Act 2014*; and (b) weeds of Natural Significance, defined by Invasive Plants and Animals Committee 2016, Australian Weeds Strategy 2017 to 2027, Australian Government Department of Agriculture and Water Resources, Canberra.

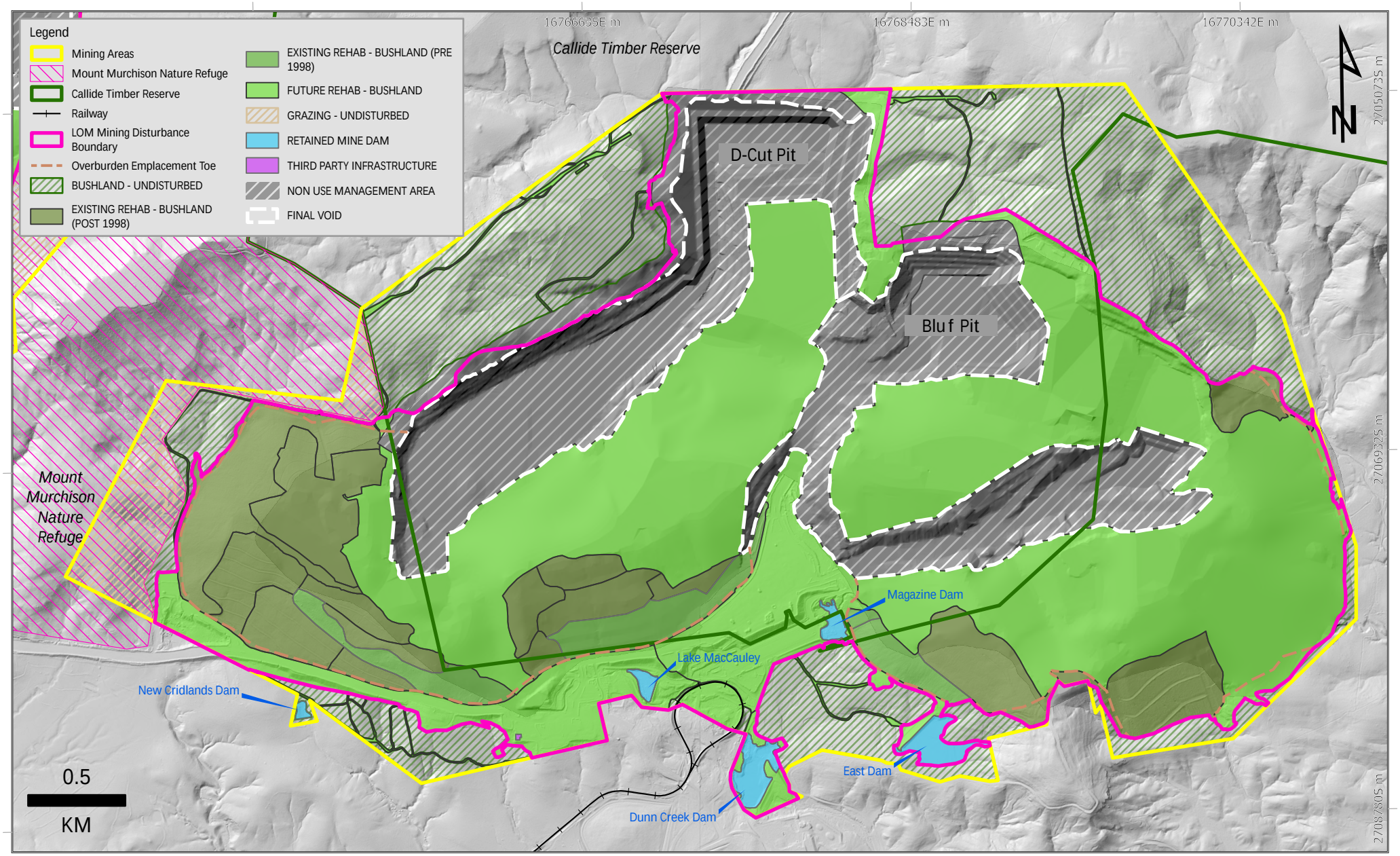
3 Section C - Final site design and reference maps

Final Site Designs:

- Schedule Figure 1: Dunn Creek – Post Mining Land Use
- Schedule Figure 2: Trap Gully – Post Mining Land Use
- Schedule Figure 3: The Hut – Post Mining Land Use
- Schedule Figure 4: Boundary Hill – Post Mining Land Use

Reference Maps

- Schedule Figure 5: Dunn Creek – Rehabilitation Areas (RAs) and Improvement Areas (IAs)
- Schedule Figure 6: Trap Gully – Rehabilitation Areas (RAs) and Improvement Areas (IAs)
- Schedule Figure 7: The Hut – Rehabilitation Areas (RAs) and Improvement Areas (IAs)
- Schedule Figure 8: Boundary Hill – Rehabilitation Areas (RAs) and Improvement Areas (IAs)



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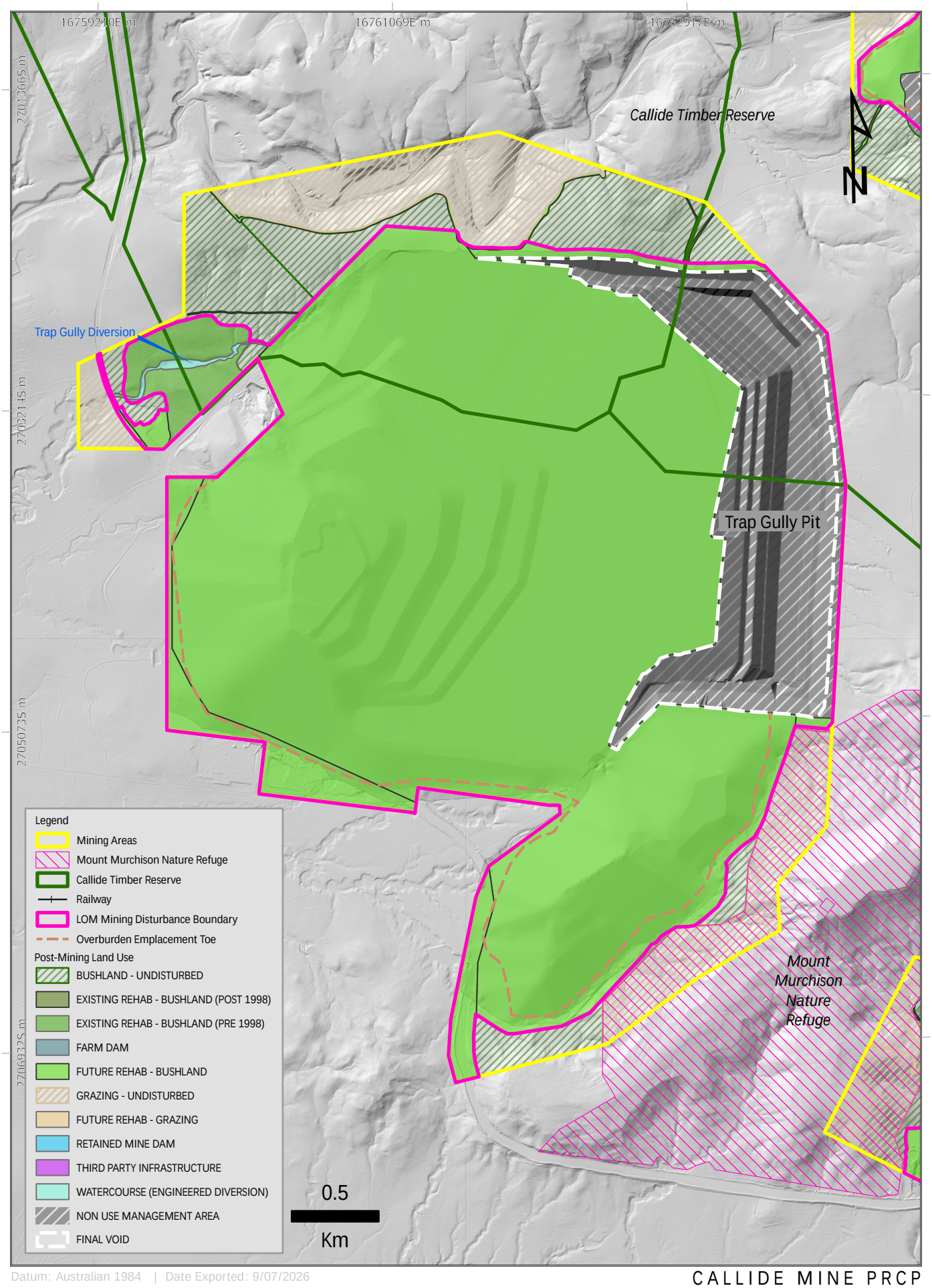
CALLIDE MINE PRCP

BATCHFIRE CALLIDE

Dunn Creek - Post Mining Land Use

SCHEDULE FIGURE 1



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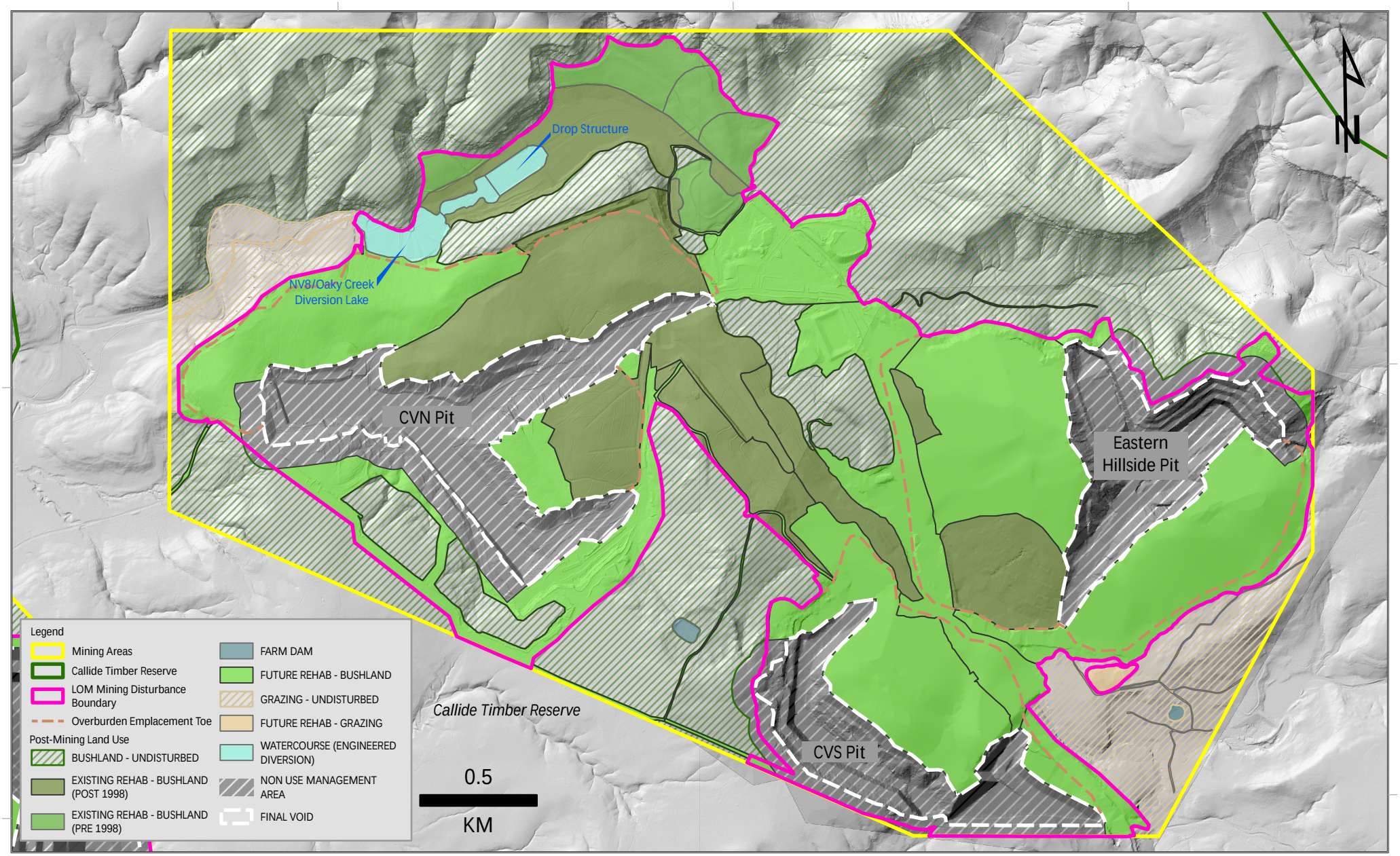
CALLIDE MINE PRCP

BATCHFIRE CALLIDE

Trap Gully - Post Mining Land Use

SCHEDULE FIGURE 2



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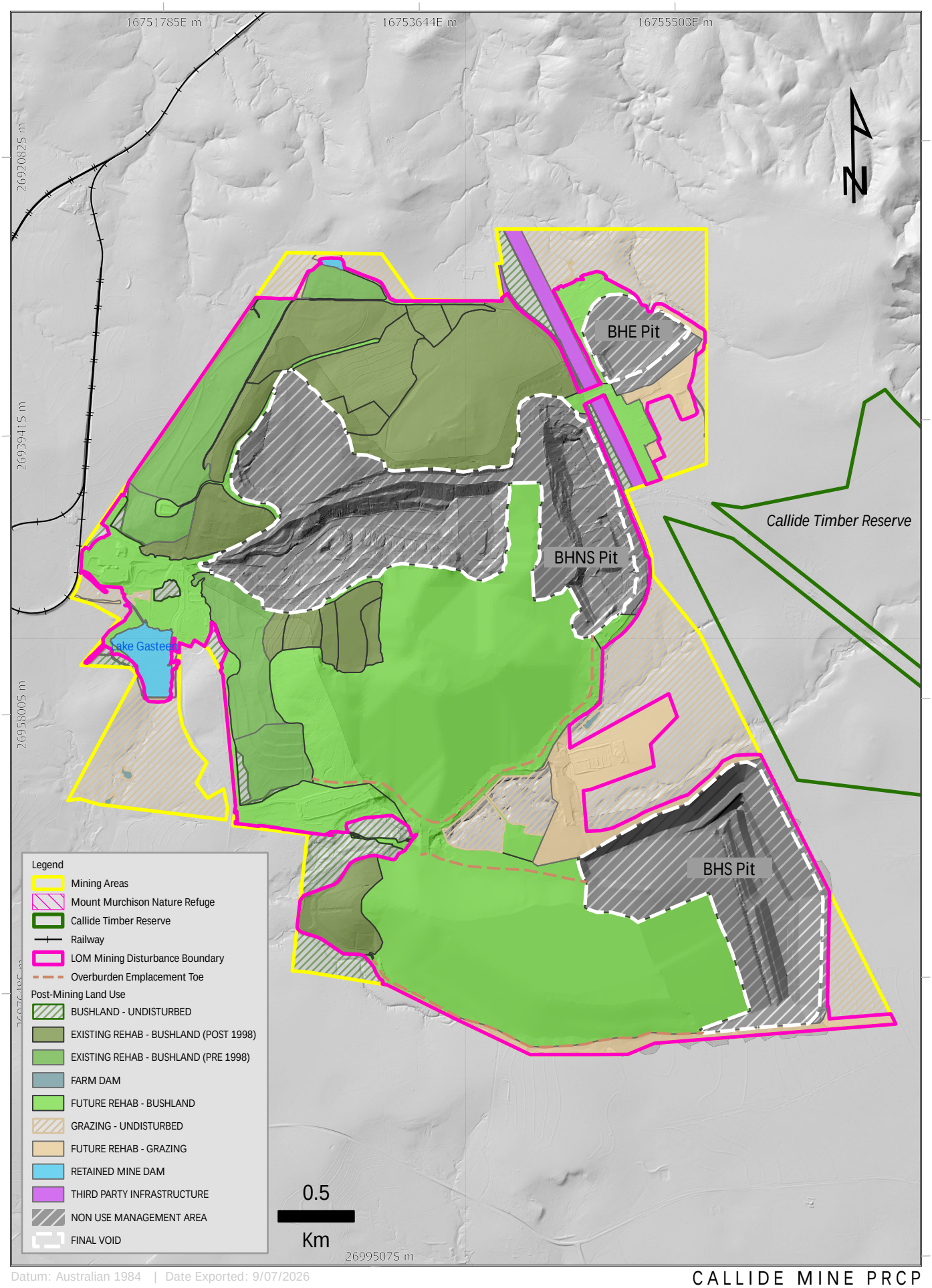
CALLIDE MINE PRCP

BATCHFIRE CALLIDE

The Hut - Post Mining Land Use

SCHEDULE FIGURE 3



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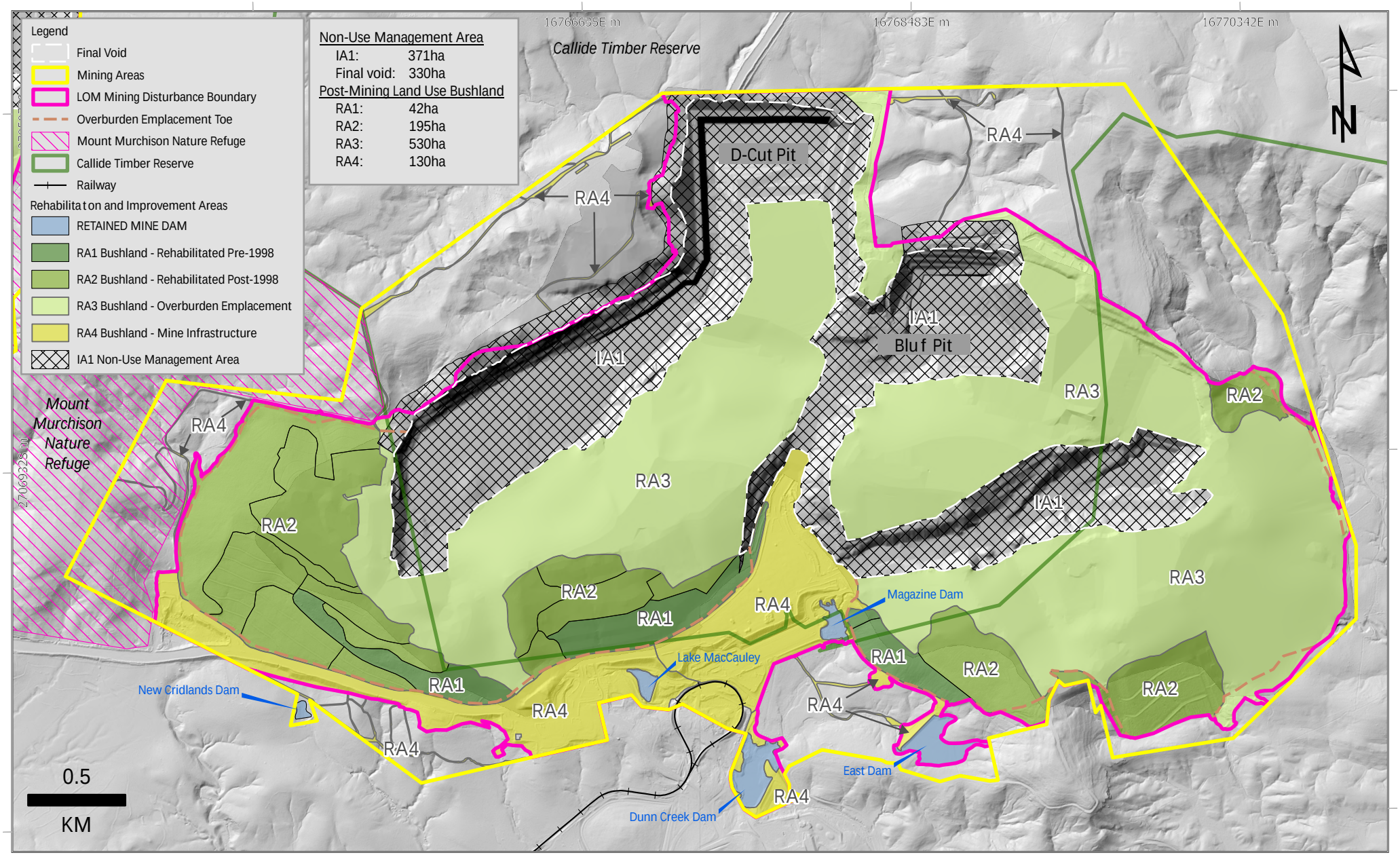
CALLIDE MINE PRCP

BATCHFIRE CALLIDE

Boundary Hill - Post Mining Land Use

SCHEDULE FIGURE 4



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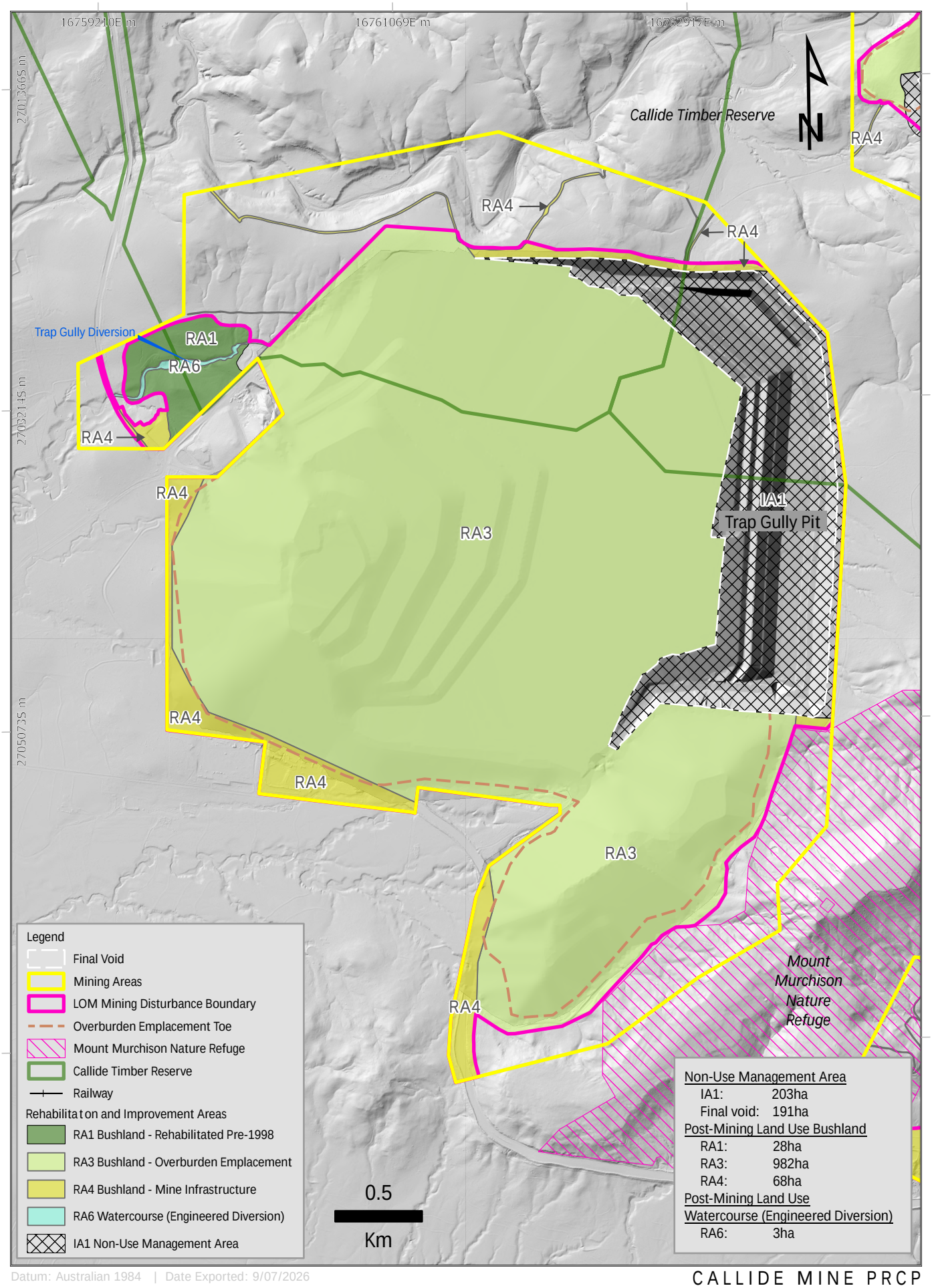
CALLIDE MINE PRCP

BATCHFIRE CALLIDE

Dunn Creek - Rehabilitation Areas (RAs) and Improvement Areas (IAs)

SCHEDULE FIGURE 5



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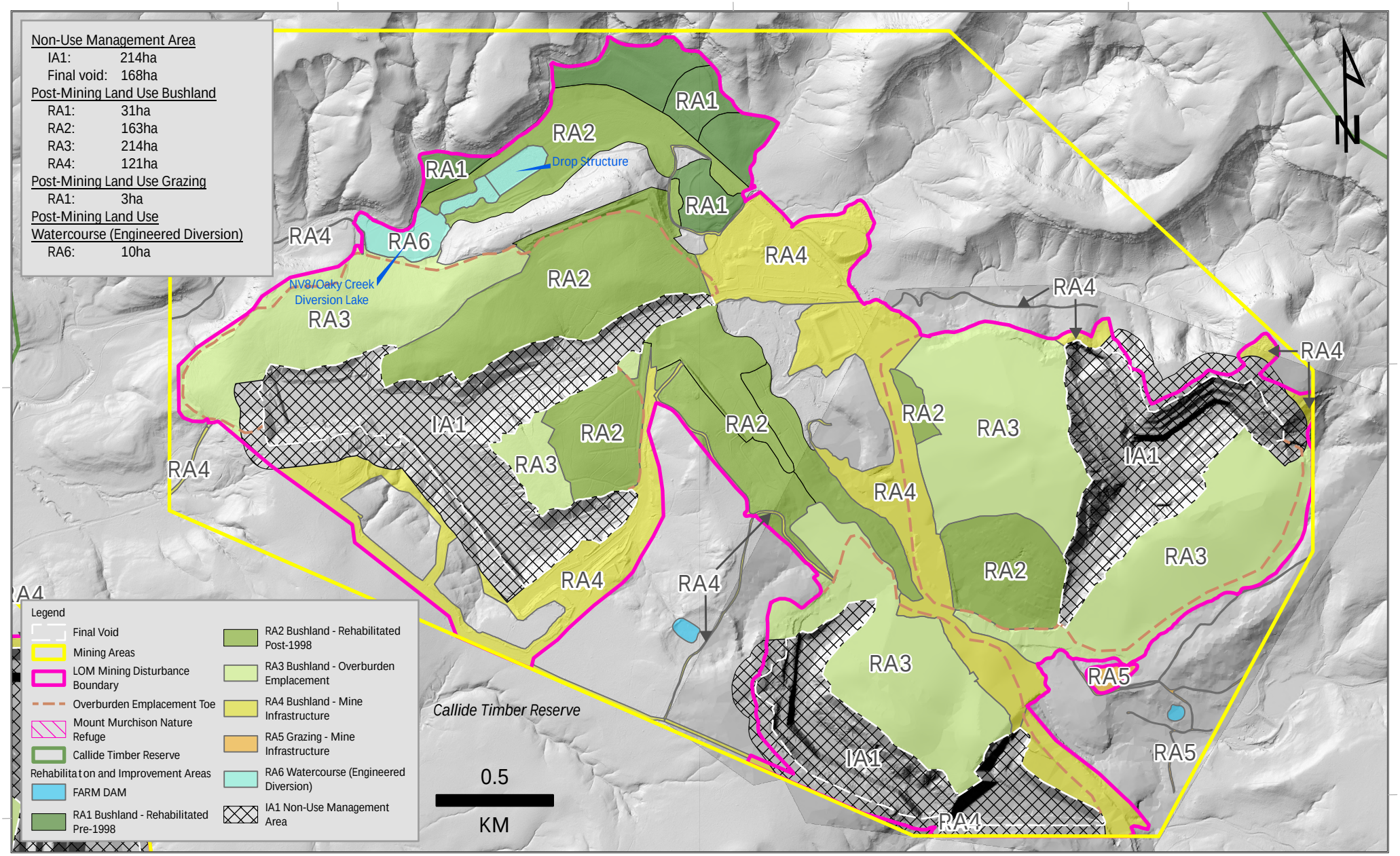
BATCHFIRE CALLIDE

CALLIDE MINE PRCP

Trap Gully - Rehabilitation Areas (RAs) and Improvement Areas (IAs)

SCHEDULE FIGURE 6



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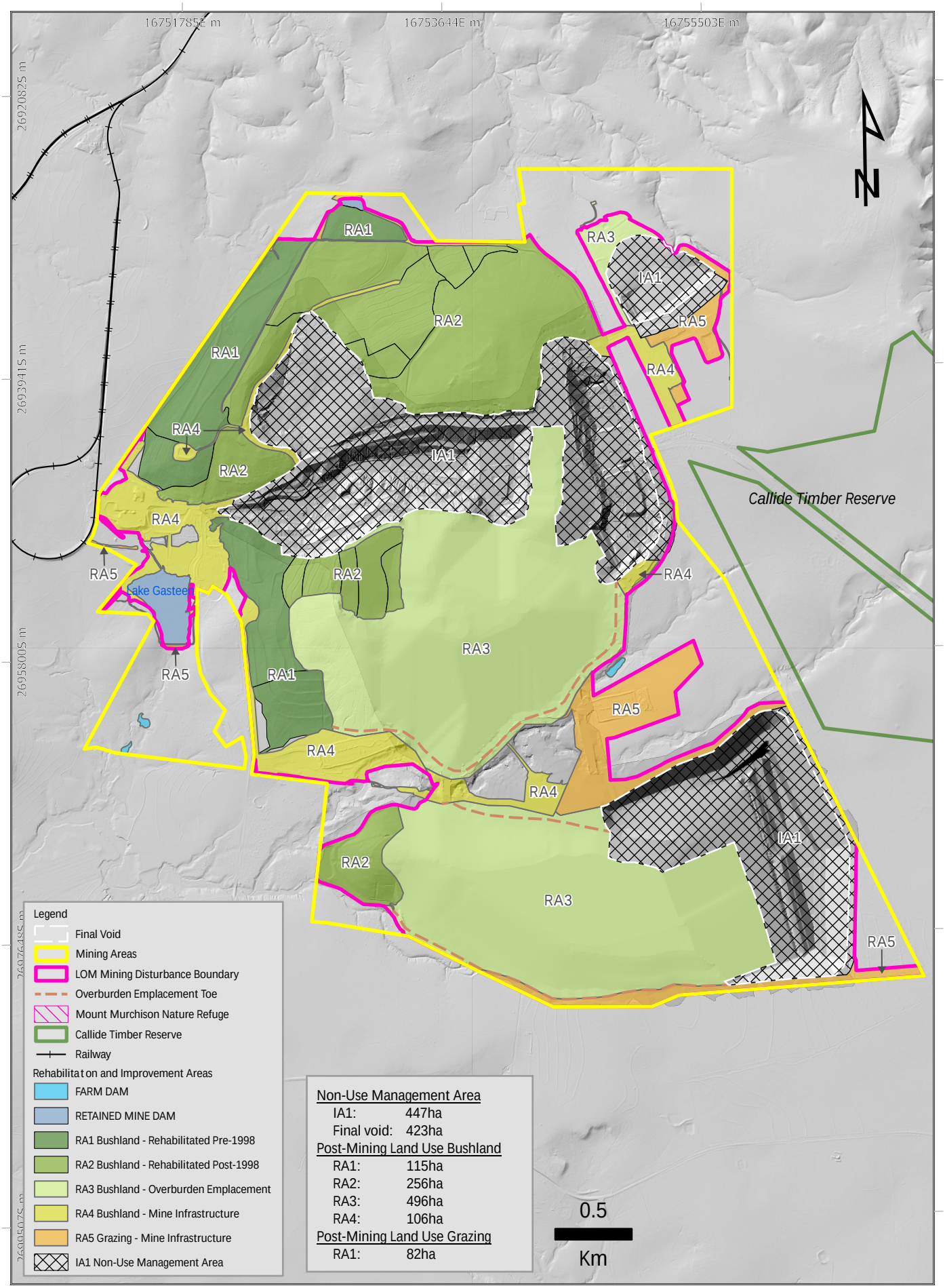
CALLIDE MINE PRCP

BATCHFIRE CALLIDE

The Hut - Rehabilitation Areas (RAs) and Improvement Areas (IAs)

SCHEDULE FIGURE 7



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BATCHFIRE CALLIDE

CALLIDE MINE PRCP

Boundary Hill - Rehabilitation Areas (RAs) and Improvement Areas (IAs)

SCHEDULE FIGURE 8

4 Section D – Post mining land uses

4.1 Milestone summary

Milestone reference	Rehabilitation milestone	Rehabilitation Area					
		RA1	RA2	RA3	RA4	RA5	RA6
RM1	Infrastructure decommissioning and removal						
RM2	Identification, remediation and removal of contaminated land						
RM3	Landform development (re-profiling / reshaping)						
RM4	Surface preparation (Bushland and grazing)						
RM5	Revegetation (Bushland, grazing and watercourse)						
RM6	Achievement of surface requirements (Bushland)						
RM7	Achievement of surface requirements (Grazing)						
RM8	Achievement of surface requirements (Watercourse)						
RM9	Achievement of Bushland post-mining land use to a stable condition						
RM10	Achievement of Grazing post-mining land use to a stable condition						
RM11	Achievement of Watercourse post-mining land use to a stable condition						
RM12	Retained infrastructure						

4.2 (RA1) Rehabilitation area 1

Post-mining land uses (PMLU)		
Rehabilitation area	RA1	
Relevant activities	Existing Rehabilitation - Pre 1998 at: Dunn Creek (42ha) Trap Gully (28ha) The Hut (31ha) Boundary Hill (115ha)	
Total rehabilitation area size (ha)	216	
Commencement of first milestone: RM6	8-May-2026	
PMLU	Bushland	
Date area is available	8/05/2026	10/12/2026
Cumulative area available (ha)	216	216
Milestone completed by	10/12/2026	10/12/2030
Milestone Reference	**Cumulative area achieved (ha)**	
RM 6 - *Achievement of surface requirements (Bushland)*	216	
RM 9 - *Achievement of Bushland PMLU to a stable condition*		216

4.3 (RA2) Rehabilitation area 2

Post-mining land uses (PMLU)			
Rehabilitation area	RA2		
Relevant activities	Bushland - Existing Rehabilitation - Post 1998 Dunn Creek (127+68ha) The Hut (79+84ha) Boundary Hill (126+124ha)		
Total rehabilitation area size (ha)	608		
Commencement of first milestone: RM6	8-May-2026		
PMLU	Bushland		
Date area is available	8/05/2026	10/12/2030	10/12/2035
Cumulative area available (ha)	332	608	608
Milestone completed by	10/12/2030	10/12/2035	10/12/2045
Milestone Reference	**Cumulative area achieved (ha)**		
RM 6 - *Achievement of surface requirements (Bushland)*	332	608	
RM 9 - *Achievement of Bushland PMLU to a stable condition*		332	608

4.4 (RA3) Rehabilitation area 3 – Dunn Creek

Post-mining land uses (PMLU)								
Rehabilitation area	RA3 – Dunn Creek							
Relevant activities	Overburden Emplacement Areas							
Total rehabilitation area size (ha)	530							
Commencement of first milestone: RM1	10-Dec-2030							
PMLU	Bushland							
Date area is available	10/12/2030	10/12/2035	10/12/2040	10/12/2045	10/12/2050	10/12/2055	10/12/2060	10/12/2065
Cumulative area available (ha)	150	339	339	509	530	530	530	530
Milestone completed by	10/12/2035	10/12/2040	10/12/2045	10/12/2050	10/12/2055	10/12/2060	10/12/2065	10/12/2070
Milestone Reference	**Cumulative area achieved (ha)**							
RM 1 - *Infrastructure decommissioning and removal*	150	339		509	530			
RM 2 - *Identification, remediation and removal of contaminated land*	150	339		509	530			
RM 3 - *Landform development and reshaping/reprofiling*	150	339		509	530			
RM 4 - *Surface Preparation*	150	339		509	530			
RM 5 - *Revegetation*	150	339		509	530			
RM 6 - *Achievement of surface requirements (Bushland)*			150	339		509	530	
RM 9 - *Achievement of Bushland PMLU to a stable condition*					339		509	530
RM 12 - *Retained Infrastructure*					339		509	530

4.5 (RA3) Rehabilitation area 3 – Trap Gully

Post-mining land uses (PMLU)						
Rehabilitation area	RA3 – Trap Gully					
Relevant activities	Overburden Emplacement Areas					
Total rehabilitation area size (ha)	982					
Commencement of first milestone: RM1	10-Dec-2045					
PMLU	Bushland					
Date area is available	10/12/2045	10/12/2050	10/12/2055	10/12/2060	10/12/2065	10/12/2070
Cumulative area available (ha)	99	396	982	982	982	982
Milestone completed by	10/12/2050	10/12/2055	10/12/2060	10/12/2065	10/12/2070	10/12/2075
Milestone Reference	**Cumulative area achieved (ha)**					
RM 1 - *Infrastructure decommissioning and removal*	99	396	982			
RM 2 - *Identification, remediation and removal of contaminated land*	99	396	982			
RM 3 - *Landform development and reshaping/reprofiling*	99	396	982			
RM 4 - *Surface Preparation*	99	396	982			
RM 5 - *Revegetation*	99	396	982	982		
RM 6 - *Achievement of surface requirements (Bushland)*			99	396	982	
RM 9 - *Achievement of Bushland PMLU to a stable condition*				99	396	982
RM 12 - *Retained Infrastructure*				99	396	982

4.6 (RA3) Rehabilitation area 3 – The Hut

Post-mining land uses (PMLU)								
Rehabilitation area	RA3 – The Hut							
Relevant activities	Overburden Emplacement Areas							
Total rehabilitation area size (ha)	214							
Commencement of first milestone: RM1	10-Dec-2026							
PMLU	Bushland							
Date area is available	10/12/2026	10/12/2030	10/12/2035	10/12/2040	10/12/2045	10/12/2050	10/12/2055	10/12/2060
Cumulative area available (ha)	48	57	57	164	214	214	214	214
Milestone completed by	10/12/2030	10/12/2035	10/12/2040	10/12/2045	10/12/2050	10/12/2055	10/12/2060	10/12/2065
Milestone Reference	**Cumulative area achieved (ha)**							
RM 1 - *Infrastructure decommissioning and removal*	48	57		164	214			
RM 2 - *Identification, remediation and removal of contaminated land*	48	57		164	214			
RM 3 - *Landform development and reshaping/reprofiling*	48	57		164	214			
RM 4 - *Surface Preparation*	48	57		164	214			
RM 5 - *Revegetation*	48	57		164	214			
RM 6 - *Achievement of surface requirements (Bushland)*			48	57		164	214	
RM 9 - *Achievement of Bushland PMLU to a stable condition*				48	57		164	214
RM 12 - *Retained Infrastructure*				48	57		164	214

4.7 (RA3) Rehabilitation area 3 – Boundary Hill

Post-mining land uses (PMLU)								
Rehabilitation area	RA3 – Boundary Hill							
Relevant activities	Overburden Emplacement Areas							
Total rehabilitation area size (ha)	501							
Commencement of first milestone: RM1	10-Dec-2030							
PMLU	Bushland							
Date area is available	10/12/2030	10/12/2035	10/12/2040	10/12/2045	10/12/2050	10/12/2055	10/12/2060	10/12/2065
Cumulative area available (ha)	40	207	424	424	501	501	501	501
Milestone completed by	10/12/2035	10/12/2040	10/12/2045	10/12/2050	10/12/2055	10/12/2060	10/12/2065	10/12/2070
Milestone Reference	**Cumulative area achieved (ha)**							
RM 1 - *Infrastructure decommissioning and removal*	40	207		424	501			
RM 2 - *Identification, remediation and removal of contaminated land*	40	207		424	501			
RM 3 - *Landform development and reshaping/reprofiling*	40	207		424	501			
RM 4 - *Surface Preparation*	40	207		424	501			
RM 5 - *Revegetation*	40	207		424	501			
RM 6 - *Achievement of surface requirements (Bushland)*			40	207		424	501	
RM 9 - *Achievement of Bushland PMLU to a stable condition*					207		424	501
RM 12 - *Retained Infrastructure*					207		424	501

4.8 (RA4) Rehabilitation area 4 – Dunn Creek

Post-mining land uses (PMLU)			
Rehabilitation area	RA4 – Dunn Creek		
Relevant activities	Mine Infrastructure Area, Roads, Laydown areas, General infrastructure and disturbance		
Total rehabilitation area size (ha)	130		
Commencement of first milestone: RM1	10-Dec-2050		
PMLU	Bushland		
Date area is available	10/12/2050	10/12/2055	10/12/2065
Cumulative area available (ha)	130	130	130
Milestone completed by	10/12/2055	10/12/2065	10/12/2070
Milestone Reference	**Cumulative area achieved (ha)**		
RM 1 - *Infrastructure decommissioning and removal*	130		
RM 2 - *Identification, remediation and removal of contaminated land*	130		
RM 3 - *Landform development and reshaping/reprofiling*	130		
RM 4 - *Surface Preparation*	130		
RM 5 - *Revegetation*	130		
RM 6 - *Achievement of surface requirements (Bushland)*		130	
RM 9 - *Achievement of Bushland PMLU to a stable condition*			130
RM 12 - *Retained Infrastructure*			130

4.9 (RA4) Rehabilitation area 4 – Trap Gully

Post-mining land uses (PMLU)					
Rehabilitation area	RA4 – Trap Gully				
Relevant activities	Mine Infrastructure Area, Roads, Laydown areas, General infrastructure and disturbance				
Total rehabilitation area size (ha)	68				
Commencement of first milestone: RM1	10-Dec-2050				
PMLU	Bushland				
Date area is available	10/12/2050	10/12/2055	10/12/2060	10/12/2065	10/12/2075
Cumulative area available (ha)	17	68	68	68	68
Milestone completed by	10/12/2055	10/12/2060	10/12/2065	10/12/2075	10/12/2080
Milestone Reference	**Cumulative area achieved (ha)**				
RM 1 - *Infrastructure decommissioning and removal*	17	68			
RM 2 - *Identification, remediation and removal of contaminated land*	17	68			
RM 3 - *Landform development and reshaping/reprofiling*	17	68			
RM 4 - *Surface Preparation*	17	68			
RM 5 - *Revegetation*	17	68			
RM 6 - *Achievement of surface requirements (Bushland)*			17	68	
RM 9 - *Achievement of Bushland PMLU to a stable condition*				17	68
RM 12 - *Retained Infrastructure*				17	68

4.10 (RA4) Rehabilitation area 4 – The Hut

Post-mining land uses (PMLU)						
Rehabilitation area	RA4 – The Hut					
Relevant activities	Mine Infrastructure Area, Roads, Laydown areas, General infrastructure and disturbance					
Total rehabilitation area size (ha)	120					
Commencement of first milestone: RM1	10-Dec-2030					
PMLU	Bushland					
Date area is available	10/12/2030	10/12/2040	10/12/2045	10/12/2050	10/12/2055	10/12/2060
Cumulative area available (ha)	34	38	120	120	120	120
Milestone completed by	10/12/2035	10/12/2045	10/12/2050	10/12/2055	10/12/2060	10/12/2065
Milestone Reference	**Cumulative area achieved (ha)**					
RM 1 - *Infrastructure decommissioning and removal*	34	38	120			
RM 2 - *Identification, remediation and removal of contaminated land*	34	38	120			
RM 3 - *Landform development and reshaping/reprofiling*	34	38	120			
RM 4 - *Surface Preparation*	34	38	120			
RM 5 - *Revegetation*	34	38	120			
RM 6 - *Achievement of surface requirements (Bushland)*		34		38	120	
RM 9 - *Achievement of Bushland PMLU to a stable condition*			34		38	120
RM 12 - *Retained Infrastructure*			34		38	120

4.11 (RA4) Rehabilitation area 4 – Boundary Hill

Post-mining land uses (PMLU)			
Rehabilitation area	RA4 – Boundary Hill		
Relevant activities	Mine Infrastructure Area, Roads, Laydown areas, General infrastructure and disturbance		
Total rehabilitation area size (ha)	106		
Commencement of first milestone: RM1	10-Dec-2045		
PMLU	Bushland		
Date area is available	10/12/2045	10/12/2050	10/12/2060
Cumulative area available (ha)	106	106	106
Milestone completed by	10/12/2050	10/12/2060	10/12/2065
Milestone Reference	**Cumulative area achieved (ha)**		
RM 1 - *Infrastructure decommissioning and removal*	106		
RM 2 - *Identification, remediation and removal of contaminated land*	106		
RM 3 - *Landform development and reshaping/reprofiling*	106		
RM 4 - *Surface Preparation*	106		
RM 5 - *Revegetation*	106		
RM 6 - *Achievement of surface requirements (Bushland)*		106	
RM 9 - *Achievement of Bushland PMLU to a stable condition*			106
RM 12 - *Retained Infrastructure*			106

4.12 (RA5) Rehabilitation area 5 – The Hut

Post-mining land uses (PMLU)			
Rehabilitation area	RA5 – The Hut		
Relevant activities	Mine Infrastructure Area, Roads, Laydown areas, General infrastructure and disturbance		
Total rehabilitation area size (ha)	3		
Commencement of first milestone: RM1	10-Dec-2040		
PMLU	Grazing		
Date area is available	10/12/2040	10/12/2045	10/12/2055
Cumulative area available (ha)	3	3	3
Milestone completed by	10/12/2045	10/12/2055	10/12/2060
Milestone Reference	**Cumulative area achieved (ha)**		
RM 1 - *Infrastructure decommissioning and removal*	3		
RM 2 - *Identification, remediation and removal of contaminated land*	3		
RM 3 - *Landform development and reshaping/reprofiling*	3		
RM 4 - *Surface Preparation*	3		
RM 5 - *Revegetation*	3		
RM 7 - *Achievement of surface requirements (Grazing)*		3	
RM 10 - *Achievement of Grazing PMLU to a stable condition*			3
RM 12 - *Retained Infrastructure*			3

4.13 (RA5) Rehabilitation area 5 – Boundary Hill

Post-mining land uses (PMLU)			
Rehabilitation area	RA5 – Boundary Hill		
Relevant activities	Mine Infrastructure Area, Roads, Laydown areas, General infrastructure and disturbance		
Total rehabilitation area size (ha)	82		
Commencement of first milestone: RM1	10-Dec-2045		
PMLU	Grazing		
Date area is available	10/12/2045	10/12/2050	10/12/2060
Cumulative area available (ha)	82	82	82
Milestone completed by	10/12/2050	10/12/2060	10/12/2065
Milestone Reference	**Cumulative area achieved (ha)**		
RM 1 - *Infrastructure decommissioning and removal*	82		
RM 2 - *Identification, remediation and removal of contaminated land*	82		
RM 3 - *Landform development and reshaping/reprofiling*	82		
RM 4 - *Surface Preparation*	82		
RM 5 - *Revegetation*	82		
RM 7 - *Achievement of surface requirements (Grazing)*		82	
RM 10 - *Achievement of Grazing PMLU to a stable condition*			82
RM 12 - *Retained Infrastructure*			82

4.14 (RA6) Rehabilitation area 6 – Trap Gully

Post-mining land uses (PMLU)		
Rehabilitation area	RA6 – Trap Gully	
Relevant activities	Creek Diversion	
Total rehabilitation area size (ha)	3	
Commencement of first milestone: RM8	10-Dec-2035	
PMLU	Watercourse (Engineered Diversion)	
Date area is available	10/12/2035	10/12/2045
Cumulative area available (ha)	3	3
Milestone completed by	10/12/2045	10/12/2055
Milestone Reference	**Cumulative area achieved (ha)**	
RM 8 - *Achievement of surface requirements (Watercourse)*	3	
RM 11 - *Achievement of Watercourse PMLU to a stable condition*		3

4.15 (RA6) Rehabilitation area 6 – The Hut

Post-mining land uses (PMLU)		
Rehabilitation area	RA6 – The Hut	
Relevant activities	Creek Diversion	
Total rehabilitation area size (ha)	10	
Commencement of first milestone: RM8	10-Dec-2045	
PMLU	Watercourse (Engineered Diversion)	
Date area is available	10/12/2035	10/12/2045
Cumulative area available (ha)	10	10
Milestone completed by	10/12/2045	10/12/2055
Milestone Reference	**Cumulative area achieved (ha)**	
RM 8 - *Achievement of surface requirements (Watercourse)*	10	
RM 11 - *Achievement of Watercourse PMLU to a stable condition*		10

4.16 Rehabilitation area milestones

Milestone reference	Rehabilitation milestone	Milestone criteria
RM1	Infrastructure decommissioning and removal	**1.1** With the exception of any infrastructure to remain as part of the post-mining land use (PMLU), where agreed to be retained by the landholder as evidenced by a signed landholder agreement, (and subject to the exclusions in **RM1.2**), or infrastructure required for rehabilitation activities the following are complete: (a) All known services disconnected and removed. (b) All buildings and associated infrastructure dismantled and removed offsite. (c) All hardstand, concrete areas and roads (bitumen, blue metal, aggregate etc.) removed. (d) All fencing and associated foundations removed. (e) All known pipelines drained and removed. (f) All waste not authorised to be disposed of on-site under Environmental Authority EPML00720413 removed. (g) All surface water drainage infrastructure that does not form part of a non-use management area (NUMA) is removed. (h) All drillholes, bores and associated sediment ponds and sumps decommissioned. (i) All machinery and equipment removed. (j) All dams dewatered and desilted. (k) Watercourse crossings and culverts removed. **1.2** Below-ground infrastructure, services and waste deeper than 0.5m in relation to the final landform surface can be retained provided: (a) All pipelines have been drained; and (b) All below-ground infrastructure (installed after the approval date of this PRCP) to be retained must be mapped; and (c) The intended PMLU is not compromised; and (d) There is no ongoing risk of environmental harm **1.3** An independent AQP has certified the achievement of **RM1.1** to **RM1.2**.

Milestone reference	Rehabilitation milestone	Milestone criteria
RM2	Identification, remediation and removal of contaminated land	**2.1** For any part of the mining leases that has been used for a notifiable activity, or which the holder is aware is likely to be contaminated land, a contaminated Land Investigation Document completed in accordance with the *Environmental Protection Act 1994*, including a site investigation report, and, where required, a Validation Report and/or a draft Site Management Plan. **2.2** Contaminated water and sediment removed from dams. **2.3** Contaminated and hazardous material either remediated in situ or removed/transported to a facility lawfully able to accept the material. **2.4** An SQP certifies that no contamination unsuitable for the PMLU achievement remains or is occurring.
RM3	Landform development (re-profiling / reshaping)	**3.1** All major earthworks (including reshaping, pushing/trimming) are completed in accordance with the design specification provided in **Section F Appendix 1 Table 1 – Final landform design**. **3.2** The constructed landform has been assessed by an AQP and certified as geotechnically safe and stable for the intended post-mining land use, consistent with the methodology and principles outlined in *Project C34028 — Guidelines for Assessment of Geotechnically Safe and Stable Post-Mining Landforms* (ACARP). **3.3** Landforms (except for Dunn Creek A & S Cut spoil) reshaped with maximum outer slopes of ≤15% with graded banks at 10m vertical intervals (60m along the slope). **3.4** Landform of Dunn Creek A & S Cut spoil reshaped with maximum outer slopes of ≤25% with 120m slope length and berms or graded banks at 120m along the slope and basalt mulch cladding. <u>ESC Facilities</u> **3.5** Existing and proposed Erosion and Sediment Control (ESC) and drainage structures on site have been reviewed and endorsed by an independent AQP as appropriate to the landform, materials and PMLU, with consideration given to long-term performance and stability in a post-closure context. **3.6** ESC facilities decommissioned and left free draining. **3.7** Independent AQP has certified achievement of **RM3.1** to **RM3.6**.

Milestone reference	Rehabilitation milestone	Milestone criteria
RM4	Surface preparation (Bushland and grazing)	**4.1** Assessment of growth media characteristics and the development of an amelioration and physical treatment plan is completed prior to the application of the growth media to the surface. **4.2** Ameliorant and physical treatments such as fertiliser, lime, gypsum and/or organic matter are applied as identified in **RM4.1**. **4.3** Deep ripping of compacted surfaces, at least 300mm at 1m spacing into soil/subsoil profile along contour of slopes, where possible. **4.4** Application of rock mulch on steeper slopes as directed by an AQP. **4.5** Topsoil/growth media placement of a minimum of 0.15m in areas where topsoil has previously been removed. **4.6** Following amelioration and ripping as per **RM4.2** and **RM4.3**, representative soil testing of growth media confirms: (a) pH in the range of 5.0 – 8.5. (b) Electrical Conductivity (saturated extract) ≤600 µS/cm. (c) Exchangeable sodium percentage (ESP) <6%. (d) Emerson aggregate class >4. **4.7** Independent AQP has certified the amelioration and treatment plan in **RM 4.1** and achievement of **RM4.2** to **RM4.6**.
RM5	Revegetation (Bushland, grazing and watercourse)	**5.1** Seeding completed using seed mix and sowing rates described in **Section F Appendix 2 – Seed mixes and seeding rates,** or as amended for additional native endemic species as recommended by an AQP and certified as suitable to achieve a stable condition. **5.2** Stock exclusion fencing has been established where required to prevent stock from grazing newly seeded areas. **5.3** Appropriate erosion controls installed/placed and functioning as designed (as per AQP certified report) to ensure erosive events do not significantly impact plant establishment. <u>Bushland PMLU (RA3 and RA4)</u> **5.4** Non-native seed must not be used for the revegetation of Bushland PMLU (except when sterile cover crops are used). **5.5** Completed seeding with a selection of native vegetation species and seeding rates in **Section F Appendix 2 Table 2 – Species seed mix and application rates for bushland PMLU.**

Milestone reference	Rehabilitation milestone	Milestone criteria
		5.6 Species chosen must reflect RE11.10.13. **5.7** Minimum seeding rates of 3kg/ha of tree species, 2kg/ha of woody understory species and 5kg/ha of grasses used. <u>Grazing PMLU (RA5)</u> **5.8** Completed seeding with a selection of species and seeding rates listed in **Section F Appendix 2 Table 3 – Species list and seeding rates for grazing PMLU.** **5.9** At least four species of 3P pasture species, two legume species and two native shade tree species established, from **Section F Appendix 2 Table 3 – Species seed mix and application rates for grazing PMLU** are applied per application area. **5.10** Minimum seeding rates of 16kg/ha of pasture seed and 4kg/ha of legume seed are used. <u>Watercourse PMLU (RA6)</u> **5.11** Completed seeding with a selection of relevant watercourse species and seeding rates as specified in **Section F Appendix 2 Table 4A – Recommended species to be established for the Watercourse PMLU – upper and mid banks** and **Section F Appendix 2 Table 4B – Recommended species to be established for the Watercourse PMLU – lower banks.** **5.12** Species chosen should reflect RE11.3.25. **5.13** Minimum seeding rates of: (a) For the upper and mid banks – 6kg/ha trees species, 4kg/ha woody understorey species and 10kg/ha grasses and other groundcover species. (b) For the lower banks – 5kg/ha tree species and 10kg/ha of grasses and other groundcover species.
RM6	Achievement of surface requirements (Bushland)	**6.1** Species used in revegetation remain present and show evidence of natural recruitment. Evidence of flora recruitment from rehabilitation monitoring data. **6.2** Weed presence is less than 5% of total vegetative cover. **6.3** Total vegetative groundcover ≥50%. **6.4** Total groundcover (combination of vegetative cover, other organic material (i.e. sticks, leaf litter) and inorganic material (i.e. rocks)) ≥ 70%.

Milestone reference	Rehabilitation milestone	Milestone criteria
		6.5 No bare surfaces >20m^2 in area or >10m in length down slope. **6.6** With respect to erosion, an AQP certifies that: (a) No evidence of erosion classified as 'moderate' or 'severe' as defined by **Section F Appendix 3 Table 5 – Erosion classification framework**. (b) Any erosion present will not compromise the achievement of the PMLU to a stable condition. (c) Erosion requiring intervention has been remediated and does not impact achieving the PMLU. (d) Any and all gully erosion: (i) Is isolated, linear, discontinuous, and restricted to primary or minor drainage lines; (ii) Does not exceed 1m in depth at any point; (iii) Does not expose or risk exposing environmentally problematic materials; (iv) The cause is known and has been resolved; (v) Is in a stabilised state, demonstrated by monitoring data over a 5-year period; (vi) Does not provide a safety hazard within the context of the PMLU; and (vii) Does not impact the stability or performance of engineered drainage features. **6.7** Surface water monitoring in accordance with condition **PRCP21** and groundwater monitoring in accordance with condition **PRCP23** must have commenced one year prior to this milestone for monitoring locations associated with the rehabilitation area (as specified in **Section F Appendix 5 Table 7 – Interim Surface water monitoring locations** and **Section F Appendix 6 Table 9 – Interim Groundwater monitoring locations**) for which the milestone applies. <u>ESC Facilities</u> **6.8** No evidence of scouring, overtopping, sedimentation or destabilisation in (or associated with) erosion and sediment control and engineering drainage structures. **6.9** Any ESC and drainage structures to be retained as a permanent feature are certified by an AQP to remain stable in perpetuity with no increased risk of gully erosion at surrender.

Milestone reference	Rehabilitation milestone	Milestone criteria
		<u>Bushland PMLU – Planned rehabilitation (RA3 and RA4)</u> **6.10** A BioCondition assessment is completed by an AQP using the methodology outlined in the latest version of the Queensland Herbarium's 'BioCondition Assessment Manual'. **6.11** The assessment completed under **RM6.10** demonstrates achievement of an overall score of ≥20 out of a possible 60, as per **Section F Appendix 4 Table 6 – BioCondition benchmark criteria.** **6.12** Native fauna identified on the MLs prior to mining are present or indicators of these species have been recorded. Fauna survey observation provides evidence of native fauna utilisation (i.e. fauna spotting, scats, and tracks) recorded. **6.13** Independent AQP certifies achievement of **RM6.1** to **RM6.12**.
RM7	Achievement of surface requirements (Grazing)	**7.1** Species used in revegetation remain present and show evidence of natural recruitment. Evidence of flora recruitment from rehabilitation monitoring data. **7.2** Weed presence is less than 5% of total vegetative cover. **7.3** Total groundcover ≥70%, with >50% established and self-sustaining vegetative groundcover of species listed in **Section F Appendix 2 Table 3 - Species seed mix and application rates for grazing PMLU.** **7.4** Minimum vegetation composition (per hectare (averaged)) of: (a) four species of 3P pasture species; (b) two legumes; and (c) two shade trees.

Milestone reference	Rehabilitation milestone	Milestone criteria
		7.5 With respect to erosion, an AQP certifies that: (a) No evidence of erosion classified as 'moderate' or 'severe' as defined by **Section F Appendix 3 Table 5 – Erosion classification framework.** (b) Any erosion present will not compromise the achievement of the PMLU to a stable condition. (c) Erosion requiring intervention has been remediated and does not impact achieving the PMLU. (d) Any and all gully erosion: (i) Is isolated, linear, discontinuous and restricted to primary or minor drainage lines; (ii) Does not exceed 1m in depth at any point; (iii) Does not expose or risk exposing environmentally problematic materials; (iv) Cause is known and has been resolved; (v) Is in a stabilised state, demonstrated by monitoring data over a 5-year period; (vi) Does not provide a safety hazard within the context of the PMLU; and (vii) Does not impact the stability or performance of engineered drainage features. **7.6** Surface water monitoring in accordance with condition **PRCP21** and groundwater monitoring in accordance with condition **PRCP23** must have commenced one year prior to this milestone for monitoring locations associated with the rehabilitation area (as specified in **Section F Appendix 5 Table 7 – Interim Surface water monitoring locations** and **Section F Appendix 6 Table 9 – Interim Groundwater monitoring locations)** for which the milestone applies. **7.7** Independent AQP has certified achievement of **RM7.1** to **RM7.6**.
RM8	Achievement of surface requirements (Watercourse)	**8.1** Species used in revegetation remain present and show evidence of natural recruitment. Evidence of flora recruitment from rehabilitation monitoring data. **8.2** Weed presence is less than 5% of total vegetative cover. **8.3** Total vegetative groundcover ≥50%. **8.4** Total groundcover (combination of vegetative cover, other organic material (i.e. sticks, leaf litter) and inorganic material (i.e. rocks)) ≥70%.

Milestone reference	Rehabilitation milestone	Milestone criteria
		8.5 No bare surfaces >20m^2 in area or >10m in length down slope. **8.6** Watercourse vegetation meets the following: (a) Species richness: (i) ≥2 native trees, (ii) ≥2 native shrubs; (iii) ≥2 grass species; and (b) Tree canopy cover ≥13%. **8.7** With respect to erosion, an AQP certifies that: (a) No evidence of erosion classified as 'moderate' or 'severe' as defined by **Section F Appendix 3 Table 5 – Erosion classification framework** (b) Any erosion present will not compromise the achievement of the PMLU to a stable condition. (c) Erosion requiring intervention has been remediated and does not impact achieving the PMLU. (d) Any and all gully erosion: (i) Is isolated, linear, discontinuous and restricted to primary or minor drainage lines; (ii) Does not exceed 1m in depth at any point; (iii) Does not expose or risk exposing environmentally problematic materials; (iv) Cause is known and has been resolved; (v) Is in a stabilised state, demonstrated by monitoring data over a 5-year period; (vi) Does not provide a safety hazard within the context of the PMLU; and (vii) Does not impact the stability or performance of engineered drainage features.

Milestone reference	Rehabilitation milestone	Milestone criteria
		8.8 Surface water monitoring in accordance with condition **PRCP21** and groundwater monitoring in accordance with condition **PRCP23** must have commenced one year prior to this milestone for monitoring locations associated with the rehabilitation area (as specified in **Section F Appendix 5 Table 7 – Interim Surface water monitoring locations** and **Section F Appendix 6 Table 9 – Interim Groundwater monitoring locations)** for which the milestone applies. **8.9** Independent AQP has certified achievement of **RM8.1** to **RM8.8**.
RM9	Achievement of Bushland post-mining land use to a stable condition	**9.1** Safety hazards in the rehabilitation area are not significantly different to surrounding unmined landscapes subject to the same land use. **9.2** Any remaining infrastructure has been rehabilitated in accordance with **RM1.1**. **9.3** The land is structurally and erosionally stable. **9.4** Surface water runoff has been collected across representative areas of rehabilitation when surface flows occur, and it is safe to do so and complies with **Section F Appendix 5 Table 8 – Interim Surface water quality limits** for pH, EC and total suspended solids. <u>Bushland PMLU – Existing rehabilitation pre-1998 (RA1)</u> **9.5** At least three native species are present, including one or more Eucalyptus, Acacia, or Corymbia. **9.6** 50% of the trees present are healthy and growing. **9.7** Trees >1.6m tall have a density >50 stems/ha. <u>Bushland PMLU – Existing rehabilitation post-1998 (RA2)</u> **9.8** At least four native species present, including one or more Eucalyptus, Acacia, or Corymbia. **9.9** 80% of trees (excluding short-lived acacias) are healthy and growing. **9.10** Trees >1.6m tall and >100 stems/ha.

Milestone reference	Rehabilitation milestone	Milestone criteria
		Bushland PMLU – Planned rehabilitation (RA3 and RA4) **9.11** A BioCondition assessment is completed by an AQP using the methodology outlined in the latest version of the Queensland Herbarium's 'BioCondition Assessment Manual'. **9.12** The assessment completed under **RM9.11** demonstrates achievement of an overall score of ≥35 out of a possible 60, as per **Section F Appendix 4 Table 6 – BioCondition benchmark criteria.** Contaminated Land **9.13** Verification by a suitably qualified person to confirm: (a) Requirements of any site management plan have been met. (b) Notifiable activities have not been undertaken post completion of **RM2** that would impact the use of the land for the nominated PMLU. (c) There is no evidence indicating an adverse change to the contaminated land status has occurred post the completion of **RM2**. Drainage Structures **9.14** Where engineered drainage structures are to be retained as permanent features (e.g. contour banks, bench drains, rock drains), it must be certified by an AQP that the structures are stable and can be expected to remain stable and functional in the long term. Retained Infrastructure/Water Storage **9.15** Infrastructure to be transitioned to a future landholder is deemed fit for purpose, safe and stable by AQP and accepted, by signed agreement with the future landholder **9.16** Retained dams are safe for native animals and stock access and have vegetated banks. **9.17** Water storage water quality monitored quarterly must meet the ANZECC 2000 livestock drinking water limits, for a minimum of 5 consecutive years, including the 5-year period immediately prior to surrender. **9.18** Seepage from retained water infrastructure must meet the ANZECC 2000 livestock drinking water limits, for a minimum of 5 consecutive years, including the 5-year period immediately prior to surrender. **9.19** Independent AQP certifies achievement of **RM9.1** to **RM9.18**.

RM10	Achievement of Grazing post-mining land use to a stable condition	**10.1** Safety hazards in the rehabilitation area are not significantly different to surrounding unmined landscapes subject to the same land use. **10.2** Any remaining infrastructure has been rehabilitated in accordance with **RM1.1**. **10.3** The land is structurally and erosionally stable. **10.4** Land Suitability class is assessed by an AQP as 3 or below in accordance with *Rehabilitated mined land suitability for cattle grazing in the Bowen Basin (Short 2023).* **10.5** Surface water runoff has been collected across representative areas of rehabilitation when surface flows occur, and it is safe to do so and complies with **Section F Appendix 5 Table 8 – Interim Surface water quality limits** for pH, EC and total suspended solids. <u>Contaminated Land</u> **10.6** Verification by a suitably qualified person to confirm: (a) Requirements of any site management plan have been met. (b) Notifiable activities have not been undertaken post completion of **RM2** that would impact the use of the land for nominated PMLU. (c) There is no evidence indicating an adverse change to the contaminated land status has occurred post the completion of **RM2**. <u>Drainage Structures</u> **10.7** Where engineered drainage structures are to be retained as permanent features (e.g. contour banks, bench drains, rock drains), it must be certified by an AQP that the structures are stable and can be expected to remain stable and functional in the long term. <u>Retained Infrastructure/Water Storage</u> **10.8** Infrastructure to be transitioned to a future landholder is deemed fit for purpose, safe and stable by AQP and accepted, by signed agreement with the future landholder. **10.9** Retained dams are safe for native animals and stock access and have vegetated banks. **10.10** Water storages water quality monitored quarterly must meet the ANZECC 2000 livestock drinking water limit, for a minimum of 5 consecutive years, including the 5-year period immediately prior to surrender.

Milestone reference	Rehabilitation milestone	Milestone criteria
		10.11 Seepage from retained water infrastructure must meet the ANZECC 2000 livestock drinking water limits, for a minimum of 5 consecutive years, including the 5-year period immediately prior to surrender. **10.12** Independent AQP certifies achievement of **RM10.1** to **RM10.11**.
RM11	Achievement of Watercourse post-mining land use to a stable condition	**11.1** Safety hazards in the rehabilitation area are not significantly different to surrounding unmined landscapes subject to the same land use. **11.2** AQP certifies that the diversions are stable. **11.3** An AQP certifies that the diversions continue to achieve the following: (a) Incorporate natural features (including geomorphic and vegetation) present at the location of the diversion. (b) Maintain sediment transport and water quality regimes that allow the diversion to be self-sustaining, while minimising any impacts to upstream and downstream water quality, geomorphology or vegetation. (c) Maintain equilibrium and functionality of the diversion and associated structures that does not require ongoing maintenance. (d) Measures and necessary modifications for the protection and maintenance of the diversion. **11.4** Surface water runoff has been collected across representative areas of rehabilitation when surface flows occur, and it is safe to do so and complies with **Section F Appendix 5 Table 8 – Interim Surface water quality limits** for pH, EC and total suspended solids. **11.5** Independent AQP certifies achievement of **RM11.1** to **RM11.4**.
RM12	Retained infrastructure	**12.1** Infrastructure to be transitioned to a future landholder is deemed fit for purpose (verified by an AQP) and accepted, by signed agreement, with the future landholder. **12.2** An AQP certifies that all infrastructure to be retained onsite is safe, stable and will not cause environmental harm.

5 Section E – Non-use management areas

5.1 (IA1) Improvement area 1 – Dunn Creek

Non-use management area (NUMA)		
Improvement area	IA1 – Dunn Creek	
Relevant activities	Final Voids and Ramps D-Cut Void (206.7ha) The Bluff (164.6ha)	
Total size (ha)	371.3	
Commencement of first milestone: MM1	10-Dec-2055	
NUMA	Final Void	
Date area is available	10/12/2055	10/12/2060
Cumulative area available (ha)	371.3	371.3
Milestone completed by	10/12/2060	10/12/2075
Milestone Reference	**Cumulative area achieved (ha)**	
MM 1 - *Achievement of final landform design*	371.3	
MM 2 - *Achievement of safety requirements*	371.3	
MM 3 - *Achievement of sufficient improvement*		371.3

5.2 (IA1) Improvement area 1 – Trap Gully

Non-use management area (NUMA)		
Improvement area	IA1 – Trap Gully	
Relevant activities	Final Voids and Ramps	
Total size (ha)	203.1	
Commencement of first milestone: MM1	10-Dec-2060	
NUMA	Final Void	
Date area is available	10/12/2060	10/12/2065
Cumulative area available (ha)	203.1	203.1
Milestone completed by	10/12/2065	10/12/2080
Milestone Reference	**Cumulative area achieved (ha)**	
MM 1 - *Achievement of final landform design*	203.1	
MM 2 - *Achievement of safety requirements*	203.1	
MM 3 - *Achievement of sufficient improvement*		203.1

5.3 (IA1) Improvement area 1 – The Hut

Non-use management area (NUMA)						
Improvement area	IA1 – The Hut					
Relevant activities	Final Voids and Ramps CVN (90.5ha) CVS (60.3ha) EH (63.0ha)					
Total size (ha)	213.8					
Commencement of first milestone: MM1	10-Dec-2030					
NUMA	Final Void					
Date area is available	10/12/2030	10/12/2040	10/12/2045	10/12/2050	10/12/2055	10/12/2060
Cumulative area available (ha)	90	153	213.8	213.8	213.8	213.8
Milestone completed by	10/12/2040	10/12/2045	10/12/2050	10/12/2055	10/12/2060	10/12/2065
Milestone Reference	**Cumulative area achieved (ha)**					
MM 1 - *Achievement of final landform design*	90	153	213.8			
MM 2 - *Achievement of safety requirements*	90	153	213.8			
MM 3 - *Achievement of sufficient improvement*				90	153	213.8

5.4 (IA1) Improvement area 1 – Boundary Hill

Non-use management area (NUMA)				
Improvement area	IA1 – Boundary Hill			
Relevant activities	Final Voids and Ramps BH (258.6ha) BHE (32.4ha) BHS (156.0ha)			
Total size (ha)	447			
Commencement of first milestone: MM1	10-Dec-2050			
NUMA	Final Void			
Date area is available	10/12/2050	10/12/2055	10/12/2060	10/12/2065
Cumulative area available (ha)	291	447	447	447
Milestone completed by	10/12/2055	10/12/2060	10/12/2075	10/12/2075
Milestone Reference	**Cumulative area achieved (ha)**			
MM 1 - *Achievement of final landform design*	291	447		
MM 2 - *Achievement of safety requirements*	291	447		
MM 3 - *Achievement of sufficient improvement*			291	447

5.5 Improvement area milestones

Milestone reference	Management milestone	Milestone criteria
MM1	Achievement of final landform design	**1.1** The maximum area of each NUMA (including the residual voids/void water bodies, high walls, low walls, end walls, ramps, ramp slopes, geotechnical stability setbacks from the void wall crests and the highwall safety bunds/fences), must not exceed the following: (a) Boundary Hill: 291ha. (b) Boundary Hill South: 156ha. (c) Dunn Creek: 371.3ha. (d) Trap Gully: 203.1ha. (e) The Hut: 213.8ha. **1.2** For each NUMA area, all areas greater than the areas listed below (generally geotechnical stability setbacks and safety bunds/fences) must meet the criteria in **MM1.3**: (a) Boundary Hill: 275.4ha. (b) Boundary Hill South: 147.4 ha. (c) Dunn Creek: 329.5ha. (d) Trap Gully: 190.5ha. (e) The Hut: 167.8ha. **1.3** The areas described in **MM1.2** have**:** (a) Topsoil/growth media placed of a minimum of 0.15m in areas where topsoil has previously been removed. (b) Seeding completed with a selection of native vegetation species and seeding rates in **Section F Appendix 2 Table 2 – Species seed mix and rates for bushland PMLU** or as amended for additional native endemic species as recommended by an AQP and certified as suitable to achieve **MM3.7**. (c) Minimum seeding rates of 3kg/ha of tree species, 2kg/ha of woody understory species and 5kg/ha of grasses used.

Milestone reference	Management milestone	Milestone criteria
		1.4 Highwall landforms must: (a) Where appropriate and practical, a diversion drain will be constructed on the crest of the highwall to divert runoff away from the residual void. (b) Have 75-degree slopes and; (i) if determined to be stable by an AQP, the highwall will be left as is; (ii) if not deemed stable by an AQP, then alternative treatments will be undertaken, such as the provision of a geotechnical stability setback from the final highwalls to the final void safety bunds, to ensure geotechnical stability as determined by the AQP. (c) Have pre-strip benches shaped to shed runoff over the high wall at several locations to limit erosion. **1.5** The final design for highwall landform must be completed by an AQP based on the latest flood modelling and materials data prior to construction. **1.6** Low walls and ramps slope generally at angle of repose. **1.7** The location of the voids and associated safety bunds does not cause instability or degradation to the land outside the NUMA. **1.8** Based on the water level and any water quality post closure prediction results from the groundwater model and final void lake balance models, an AQP assesses that the final void lake will not adversely impact groundwater quality at sensitive groundwater-dependent features. **1.9** Based on the post closure groundwater model and final void water balance models the final void lake will not overflow to the ground surface.

Milestone reference	Management milestone	Milestone criteria
MM2	Achievement of safety requirements	**2.1** Competent safety bund or equivalent landform in place to prevent access to the residual void NUMA, at the geotechnical stability set-back distance determined by an AQP. **2.2** The safety bund is accordance with engineering requirements including: (a) Constructed from non-weathered, non-dispersive dumped rockfill; (b) a minimum 2m in height; (c) a minimum of 4m base width; and (d) 1 in 3 batters. **2.3** Fencing erected, where required to prevent access to the residual void, around the perimeter of the safety bund. **2.4** Safety signage (design in accordance with Australian standard) is erected at 100m intervals along the fence.
MM3	Achievement of sufficient improvement	**3.1** The highwall stability has been assessed and geotechnical stability set back distance has been determined by an AQP. **3.2** Appropriate safety infrastructure (as per **MM2**) at the geotechnical set-back distance has been installed to prevent access to the residual void NUMA. **3.3** The residual void is safe to humans and livestock. **3.4** The final void water level and quality do not, and will not, cause environmental harm to the receiving environment, as demonstrated by groundwater and final void lake level and quality monitoring. **3.5** Erosion of the landform within the residual void NUMA area will not negatively impact on the stability of any adjacent rehabilitation areas, or their ability to sustain their PMLU. **3.6** Monitoring and maintenance of exclusion fences and bunds to be carried out to ensure they remain effective. **3.7** The areas described by **MM1.2** have total vegetative groundcover ≥50%. **3.8** Independent AQP certifies achievement of **MM1.1** to **MM3.7**.

6 Section F – Appendices

Appendix 1 – Final landform design

Table 1 – Final landform design

Disturbance Type	Slope or Configuration	Drainage
Dragline and pre-strip soil (except Dunn Ck A and S Cut spoil) – outer slopes	Overall slope angle of 15% on outer slopes.	Graded banks at 10m vertical intervals (approx. Every 60m along the slope)
Dunn Creek A & S Cut spoil – outer slopes	Overall slope angle of 25% on outer slopes, 120m slope length, basalt mulch cladding.	Berms or graded banks at 120m spacing along the slope
Internal slopes	Generally, 15% or flatter.	Graded banks at 10m vertical intervals
Trial slopes	From 15% to 25% with topsoil or basalt mulch cladding.	Graded banks at 10m vertical intervals
	Up to 37% (angle of repose).	Cut off drain/diversion bund across top of slope
Void – High wall	75° slope angle.	Safety bunds will be constructed along the top of the high walls and along the crest of the pre-strip benches. The pre-strip benches will be shaped to shed runoff over the high wall at several locations to limit erosion.
Void – Low wall and ramp spoil	Generally at angle of repose.	

Appendix 2 – Seed mixes and seeding rates

Table 2 – Species seed mix and application rates for bushland PMLU

Scientific name	Common name	Application rate (kg/ha)
Trees(T) /shrubs(S)		
Eucalyptus crebra	Narrow-leaved ironbark	0.2 – 0.5
Eucalyptus melanophloia	Silver-leaved ironbark	0.2 – 0.5
Corymbia citriodora	Spotted gum	0.3 – 1
Corymbia tessellaris	Moreton Bay ash	0.2 – 0.5
Eucalyptus exserta	Queensland peppermint	0.2 – 0.5
Eucalyptus moluccana	Gum-topped box	0.2 – 0.5
Corymbia trachyphloia	Brown bloodwood	0.1 – 0.5
Corymbia erythrophloia	Red bloodwood	0.1 – 0.5
Angophora leiocarpa	Rusty gum	0.2 – 0.5
Callitris endlicheri	Black cypress pine	0.2 – 0.5
Corymbia intermedia	Pink bloodwood	0.1 – 0.5
Eucalyptus cloeziana	Dead finish	0.2 – 0.5
Minimum total sowing rate		**3**
Woody understory species/shrubs (S)		
Petalostigma pubescens	Quinine bush	0.2 – 0.5
Alphitonia excelsa	Soap bush	0.2 – 0.5
Eremophila mitchelii	False Sandalwood	0.2 – 0.5
Grewia latifolia	Dogs balls/emu berry	0.3 – 1
Dodonaea viscosa	Broadleaf hopbush	0.2 – 0.5
Alstonia constricta	Bitterbark	0.2 – 0.5
Owenia venosa	Crow's apple	0.5 – 1
Acacia implexa	Lightwood / hickory wattle	0.2 – 0.3
Acacia decora	Pretty wattle	0.2 – 0.3
Acacia bancroftiorum	Bancroft’s wattle	0.2 – 0.3
Acacia penninervis subsp. penninervis	Mountain hickory wattle	0.2 – 0.3
Dodonaea triangularis	Triangle-leaved hopbush	0.1 – 0.3
Acacia semirigida	Stony ridge wattle	0.2 – 0.3
Dodonaea stenophylla	Netted hopbush	0.1 – 0.3
Jacksonia scoparia	Dogwood	0.1 – 0.3
Acacia fasciculifera	Scrub ironbark / rosewood	0.1 – 0.3
Acacia crassa	Curracabah	0.2 – 0.3
Acacia flavescens	Red wattle, yellow wattle	0.2 – 0.3
Acacia glaucocarpa	Hickory wattle	0.2 – 0.3
Acacia longispicata	Slender flower wattle	0.2 – 0.3
Dodonaea filifolia	Thread-leaved hop bush	0.1 – 0.3
Dodonaea peduncularis	Stalked hop bush	0.1 – 0.3
Dodonaea vestita		0.1 – 0.3
Pomax umbellata	Pomax	0.1 – 0.3
Daviesia filipes		0.1 – 0.3
Cassinia laevis	Cough bush	0.1 – 0.3
Minimum total sowing rate		**2**

Ground cover – Grasses(G)		
Heteropogon contortus	Black Spear grass	0.2 – 2
Eragrostis elongata	Clustered lovegrass	0.05 – 0.1
Eragrostis alveformis	Granite lovegrass	0.05 – 0.1
Eragrostis brownii	Brown's lovegrass	0.05 – 0.1
Eragrostis lacunaria	Purple lovegrass	0.05 – 0.1
Eragrostis leptostachya	Paddock lovegrass	0.05 – 0.1
Eragrostis parviflora	Weeping lovegrass	0.05 – 0.1
Eragrostis sororia	Woodland lovegrass	0.05 – 0.1
Themeda triandra	Kangaroo grass	0.5 – 2
Dicanthium sericeum	Queensland bluegrass	0.3 – 2
Bothriochloa decipiens	Pitted blue grass	0.2 – 0.5
Cymbopogon refractus	Barbed-wire grass	0.1 – 0.3
Aristida spp. (i.e. A. calycina, A. latifolia, A. ramosa, A. caput-medusae, A. jerichoensis, A. personata, A. calycina	Three awned spear grass (co-habitant species)	0.2 – 1
Panicum effusum	Hairy millet/Hairy panic	0.05 – 0.1
Aristida caputmedusae	Many-headed wiregrass	0.2 – 1
Aristida vagans	Three-awned speargrass	0.2 – 1
Fimbristylis dichotoma	Forked fimbry	0.1 – 0.2
Panicum decompositum	Native millet	0.3 – 0.5
Minimum total sowing rate		**5**
Rapid groundcover establishment species		
Echinochloa esculenta	Japanese millet	5
Minimum total sowing rate		**5**

Table 3 – Species seed mix and application rates for grazing PMLU

Scientific name	Common name	Minimum application rate (kg/ha)
Grass species		
Bothriochloa bladhii	Forest bluegrass	4[c]
Bothriochloa insculpta cvv. Bisset *	Bisset creeping bluegrass	4 [c]
Chloris gayana cvv. Callide *	Callide Rhodes grass	4 [c]
Chloris gayana cvv. Katambora *	Katambora Rhodes grass	4 [c]
Dicanthium sericeum subsp. Sericeum	Queensland bluegrass	4 [c]
*Setaria incrassata**	Purple pigeon	4 [c]
Heteropogon contortus	Black spear grass	4
Themeda triandra	Kangaroo grass	2
Minimum total sowing rate		**16**
Legume species		
Chaemacrista rotundifolia	Wynn cassia	2
Clitoria terneatea	Butterly pea	2
Macroptilium bracteatum *	Burgundy bean	2
Stylosanthes seabrana cvv. Caatinga	Caatinga stylo	2
Stylosanthes hamata *	Shrubby stylo	2
Rhynchosia minima var. australis	Rhynchosia	2
Rhynchosia minima var. minima	Rhynchosia	2
Minimum total sowing rate		**4**
Rapid groundcover establishment species		
Echinochloa esculenta	Japanese millet	5

[c] Assumes seed is coated. If not coated, use half prescribed rate;

* Naturalised exotic species

Table 4A – Species seed mix and application rates for watercourse PMLU – mid to upper banks

Scientific name	Common name	Application rate (kg/ha) (uncoated weight)
Trees(T) /shrubs(S)		
Casuarina cristata (T)	Belah	0.5 – 1
Casuarina cunninghamiana (T)	River she-oak	0.5 – 1
Corymbia tessellaris (T)	Moreton bay ash	0.5-1
Eucalyptus camaldulensis subsp. obtusa (T)	River red gum	1 – 2
Eucalyptus melanophloia (T)	Silver-leaved ironbark	0.5 – 1
Eucalyptus tereticornis (T)	Queensland blue gum	0.5-1
Cassia brewsteri (S)*	Leichardt bean	0.5 – 1
Dodonaea viscosa (S)	Broadleaf hopbush	0.5-1
Eremophila mitchellii (S)	False sandalwood	0.5 – 1
Grevillea striata (S)	Beefwood	0.5-1
Ficus opposita (S)	Sandpaper fig	0.5 – 1
Ficus fraseri (S)	White sandpaper fig	0.5 – 1
Ficus coronata (S)	Creek sandpaper fig	0.5 – 1
Petalostigma pubsescens (S)	Quinine bush	0.5 – 1
Grewia latifolia (S)	Dogs balls / emu berry	0.5 – 1
Acacia excelsa (T)	Ironwood wattle	0.5 – 1
Minimum total sowing rate		**4**
Ground cover – Grasses(G) and Forbs(F)		
Bothriochloa bladhii (G)	Forest Bluegrass	1 – 2
Dichanthium sericeum (G)	Queensland Bluegrass	2 – 3
Heteropogon contortus	Black Speargrass	1 – 2
Rhynchosia minima var. minima (F)	Rhynchosia	1 – 2
Themeda triandra (G)	Kangaroo Grass	2 – 3
Chloris divaricata (G)	Slender Chloris	1 – 2
Bothriochloa decipiens (G)	Pitted blue grass	1 – 2
Sida hackettiana (F)	Spiked Sida	2 – 3
Glycine tomentella (F)	Woolly Glycine	1 – 2
Alternanthera denticulate (F)	Lesser Joyweed	1 – 2
Neptunia gracilis (F)	Native Sensitive Plant	1 – 2
Panicum effusum (G)	Hairy millet/Hairy panic	1 – 2
Minimum total sowing rate		**10**

Note: Where seed for a specific species is not available in sufficient quality or quantity as listed in this table, it will be supplemented by the equivalent weight of a comparable native species from the technical descriptions for RE 11.3.4.

Table 4B – Species seed mix and application rates for watercourse PMLU – lower banks

Scientific name	Common name	Application rate (kg/ha) (uncoated weight)
Trees		
Casuarina cunninghamiana subsp. Cunninghamiana	River oak	0.5 – 1
Eucalyptus melanophloia	Silver-leaved ironbark	0.5 – 1
*Corymbia tessellaris**	Moreton Bay ash	0.5 – 1
*Eucalyptus tereticornis subsp. tereticornis**	Queensland blue gum	0.5 – 1
*Melaleuca viminalis**	Red bottlebrush	0.5 – 1
*Melaleuca leucadendra**	Broad-leaved tea tree	0.5 – 1
Melaleuca fluviatilis	Weeping tea-tree	0.5 – 1
Minimum total sowing rate of trees		**5**
Rushes and sedges		
Chrysopogon zizanioides	Vetiver Grass (sterile)	2
Cyperus exaltatus	Tall Flat Sedge	1
Cyperus fulvus	Sticky Sedge	1
Cyperus gracilis	Slender Flat-Sedge	1
Eleocharis pallens	Pale Spike Rush	1
Lomandra longifolia	Spiny Head Matt-Rush	1
Minimum total sowing rate		**7**
Ground cover – Grasses(G) and Forbs(F)		
Bothriochloa bladhii (G)	Forest bluegrass	2
Dichanthium sericeum (G)	Queensland bluegrass	2.5
Heteropogon contortus(G)	Black spear grass	1
Cymbopogon refractus	Barbwire grass	2
Themeda triandra	Kangaroo grass	2.5
Chloris divaricata	Slender chloris	1
Bothriochloa decipiens	Pitted bluegrass	1
Minimum total sowing rate of grasses, sedges, and forbs		**10**

Note: Where seed for a specific species is not available in sufficient quality or quantity as listed in this table, it will be supplemented by the equivalent weight of a comparable native species from the technical descriptions for RE 11.3

Appendix 3 – Erosion classification framework

Table 5 – Erosion classification framework

Erosion classification	Minor	Moderate	Severe
Sheet erosion	Shallow soil deposits downslope	Partial exposure of roots; moderate soil deposits downslope, etc	Loss of surface horizon; root exposure; moderate substantial soil deposits downslope
Rill erosion	<0.3m deep <15 rills/transect*	<0.3m deep 15 – 30 rills/transect*	<0.3m deep >30 rills/transect*
Gully erosion	Absent	>0.3m deep Gullies are linear, continuous, and restricted to primary or minor drainage lines	>0.3m deep Gullies are continuous or discontinuous, and either tend to branch away from primary drainage lines and on to foot slopes, or have multiple branches within drainage lines
Tunnel erosion	Absent	Absent	Present
Mass movement	Absent	Absent	Present

Source: NCST (2009) Australian Soil and Land Survey Field Handbook, 3rd edition. The National Committee on Soil and Terrain. CSIRO Publishing, Collingwood, Australia.

**Transect linear 100m across the contour (Source: Tongway, D. J. and Hindley, N. L. 2005. Landscape Function Analysis: Procedures for Monitoring and Assessing Landscapes. CSIRO Publishing, Canberra, Australia)*

Appendix 4 – BioCondition benchmark criteria

Table 6 – BioCondition benchmark criteria

BioCondition Attribute	Weighting	11.10.13 Reference Benchmark	RM6 Indicative benchmark for 5 years (≥20/60)	BioCondition score	RM9 Indicative benchmark for 15 years (≥35/60)	BioCondition score
Recruitment (%)	5	100				
Recruitment of 3+ dominant canopy species (%)	5		0%	0	20%	3
Non-native plant cover (%)	10	0				
Restricted invasive plant cover (%)	10		<5 %	10	<5 %	10
Native tree species richness (#)	5	7	2+ species	2.5	6+ species	5
Native shrub species richness (#)	5	10	3+ species	2.5	3+ species	2.5
Native grass species richness (#)	5	6	2+ species	2.5	2+ species	2.5
Native forb/other species richness (#)	5	7	2+ species	2.5	2+ species	2.5
Tree canopy height (m)	5	22	0	0	>6m	3
Tree canopy cover (%)	5	25	>2.5 %	2	>12.5%	5
Shrub canopy cover (%)	5	15	>1.5%	3	>1.5%	3
Native perennial grass cover (%)	5	20	>10%	3	>10%	3
Litter ground cover (%)	5	40	0	0	>4%	3
Overall score possible	**60**					

** Excluding the landscape, large tree, and coarse woody debris BioCondition attributes*

[1] These should be species that occur in RE 11.10.13 (or 11.10.1 for additional seed species mix diversity)

Modified BioCondition score (BC) for a site can be calculated as: BC = a+b+c+d+e+f+g+h/60.

Refer to the BioCondition Assessment Manual for assessment methods and calculating an overall area-weighted BC score for the area of interest: Eyre, T.J., Kelly, A.L, Neldner, V.J., Wilson, B.A., Ferguson, D.J., Laidlaw, M.J. and Franks, A.J. (2015). BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland. Assessment Manual. Version 2.2. Queensland Herbarium, Department of Science, Information Technology, Innovation and Arts, Brisbane.

Appendix 5 – Surface water monitoring

Table 7 – Interim Surface water monitoring locations

Monitoring Locations	Receiving waters location description	Latitude (GDA2020)	Longitude (GDA2020)
Upstream monitoring locations			
CC-US	Callide Dam Headwaters, Callide Creek, 2km upstream of Dunn Creek mining area	-24.32238719	150.6699466
DC-US	Dunn Creek, immediately upstream of Dunn Creek mining area	-24.29864182	150.6223858
TH-US	Oaky Creek, 900 metres upstream of The Hut mining area	-24.27718719	150.6447067
TG-US	Timber Reserve Background, upstream of Trap Gully and The Hut mining areas and 2.5km upstream of confluence with Oaky Creek	-24.24868718	150.5666067
BH-US	Campbell's Creek, immediately upstream of Boundary Hill mining area and 6km upstream of confluence with Gate Creek	-24.21635162	150.5234956
BELL-US	Bell Creek, upstream of Boundary Hill mining area	-24.15395788	150.5207176
Downstream monitoring locations			
CC-DS	Callide Creek old Channel, 150m downstream of Gate Creek	-24.25808717	150.4263067
DC-DS1	Dunn Creek, immediately downstream of Dunn Creek Dam	-24.33090669	150.6270436
DC-DS2	Unnamed tributary of Callide Creek, 1.5km downstream of Dunn Creek mining area	-24.33120539	150.6656877
DC-DS3	Unnamed tributary of Callide Creek, 300m downstream of Dunn Creek mining area	-24.32531136	150.5963145
DC-DS4	Unnamed tributary of Callide Creek, immediately downstream of Dunn Creek mining area	-24.32887752	150.6129214
DC-DS5	Bluff Creek Drainage South	-24.32946	150.64993
TH-DS	Oaky Creek, immediately downstream of The Hut mining area and 1.2km downstream of the Oaky Creek Diversion	-24.26238765	150.5947489
TG-DS1	Trap Gully Creek, immediately downstream of Trap Gully Creek Diversion	-24.28177801	150.550822
TG-DS2	Unnamed tributary of Oaky Creek, 1km downstream of Trap Gully mining area	-24.29218767	150.5452009
TG-DS3	Oaky Creek, 3.6km downstream of Trap Gully mining area	-24.30822301	150.5092564
TG-DS4	Unnamed tributary of Oaky Creek, 500m downstream of Mt Murchison overburden emplacement area	-24.30669	150.55770
BH-DS	Gate Creek, 3km downstream of the confluence with Campbell's Creek	-24.23899273	150.4604612
BHS-DS	Campbell's Creek, 600m downstream of Boundary Hill South mining area	-24.22868718	150.4867067
BHN-DS	Unnamed tributary of Bell Creek, 1.6km downstream of Boundary Hill mining area	-24.18041956	150.4840549
BELL-DS	Bell Creek, downstream of Boundary Hill mining area	-24.15207317	150.4071637

Table 8 – Interim Surface water quality limits

Quality characteristic (units)	Limit	Comment on limit
pH (pH units)	6.5 to 8.5	EPP Water - Callide Creek Catchment Environmental Values and Water Quality Objectives (2011)
Electrical Conductivity (µS/cm)	780	Site-specific (80th %ile upstream data)*
Suspended Solids (mg/L)	40	Site-specific (80th %ile upstream data)*
Turbidity (NTU)	43	Site-specific (80th %ile upstream data)*
Sulphate (mg/L)	34	Site-specific (95th %ile upstream data)*
Aluminium - dissolved (µg/L)	450	Site-specific (95th %ile upstream data)*
Boron – dissolved (µg/L)	130	Site-specific (95th %ile upstream data)*
Cadmium - dissolved (µg/L)	0.2	ANZG (2018)
Chromium - dissolved (µg/L)	1.0	ANZG (2018)
Cobalt - dissolved (µg/L)	1.4	ANZG (2018)
Copper - dissolved (µg/L)	4	Site-specific (95th %ile upstream data)*
Iron – dissolved (µg/L)	270	ANZG (2018)
Lead - dissolved (µg/L)	3.4	ANZG (2018)
Manganese - dissolved (µg/L)	292	Site-specific (95th %ile upstream data)
Molybdenum - dissolved (µg/L)	5	Site-specific (95th %ile upstream data)*
Nickel - dissolved (µg/L)	5	Site-specific (95th %ile upstream data)*
Selenium - total (µg/L)	5	ANZG (2018)
Silver - dissolved (µg/L)	0.05	ANZG (2018)
Uranium - dissolved (µg/L)	0.5	ANZG (2018)
Vanadium - dissolved (µg/L)	6	ANZG (2018)
Zinc - dissolved (µg/L)	19	Site-specific (95th %ile upstream data)*
Ammonia	900	ANZG (2018)
Nitrate (mg/L)	0.5	Site-specific (95th %ile upstream data)*
Total recoverable hydrocarbons (C6-C9) (µg/L)	20	For aquatic ecosystem protection, based on LOR for GCMS
Total recoverable hydrocarbons (C10-C36) (µg/L)	100	For aquatic ecosystem protection, based on LOR for GCMS
Major ions (mg/L) Calcium, chloride, potassium, magnesium, sodium, bicarbonate, carbonate	For interpretation purposes	
Hardness (mg/L)	For interpretation purposes	

Notes:

- *All metals and metalloids must be measured as 'dissolved' (from analysis of a field filtered sample) and total (unfiltered).*
- *Limits for metals and metalloids apply to dissolved results.*
- *ANZG (2018) Aquatic ecosystem protection for slightly to moderately disturbed system (95% protection).*
- *LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.*

**Site-specific values calculated by DETSI using available WaTERS data.*

Appendix 6 – Groundwater monitoring

Table 9 – Interim Groundwater monitoring locations

Bore Name	Screened Formation	Latitude (GDA2020)	Longitude (GDA2020)
BH01	Basement Volcanics	-24.207758	150.482171
BH_MB01	Basement Volcanics	-24.220865	150.483891
TG01	Callide Coal Measures	-24.283339	150.552074
TG02	Callide Coal Measures	-24.294118	150.547101
DC01	Basement Volcanics	24.3279417	150.6133434
1900	Callide Coal Measures	-24.324250	150.627859
BLUFF01D	Basement Volcanics	24.3230864	150.6573501
MB18	Basement Volcanics	24.2316657	150.4982290
R3038	Precipice Sandstone	24.2366368	150.4963608
C0507663	Callide Coal Measures	-24.238984	150.498861
HUT01	Callide Coal Measures	-24.287237	150.633994
HUT03	Callide Coal Measures	-24.272976	150.585851
MB36	Callide Coal Measures	-24.258934	150.619306
MB07	Callide Coal Measures	-24.202560	150.525760
DC040C	Callide Coal Measures	-24.298603	150.626564
BLUFF 2S	Alluvium	-24.325875	150.660018
MB15	Precipice Sandstone	-24.25579	150.54553
MB23	Callide Coal Measures	-24.24088	150.52944
MB28	Quaternary Sandstone	-24.22895	150.48712
MB29	Precipice Sandstone	-24.24095	150.572497
R3076	Precipice Sandstone	-24.2478	150.510065
R3084	Precipice Sandstone	-24.25901	150.52223

Table 10 – Interim Groundwater quality limits

Quality Characteristic	Units	Monitoring Bore	Limit	Comment
pH (pH units)	pH	All bores other than bores listed in Table 11	6.5 – 8.0	Site specific
Electrical Conductivity (EC)	µS/cm	All bores other than bores listed in Table 11	2,240	Site specific
Sulphate	mg/L	All bores	70	Groundwater Zone 38 Deep – 80th %ile
Aluminium	µg/L	All bores	55	ANZG (2018)
Boron	µg/L	All bores	940	ANZG (2018)
Cadmium	µg/L	All bores	0.2	ANZG (2018)
Chromium	µg/L	All bores	1	ANZG (2018)
Cobalt	µg/L	All bores	1.4	ANZG (2018)
Copper	µg/L	All bores	2	ANZG (2018)
Lead	µg/L	All bores	3.4	ANZG (2018)
Iron	µg/L	All bores	280	DRAFT ANZG (2024)
Mercury	µg/L	All bores	0.06	ANZG (2018)
Molybdenum	µg/L	All bores	34	ANZG (2018)
Manganese	µg/L	All bores	1900	ANZG (2018)
Nickel	µg/L	All bores	11	ANZG (2018)
Selenium	µg/L	All bores	5	ANZG (2018)
Silver	µg/L	All bores	0.05	ANZG (2018)
Uranium	µg/L	All bores	0.5	ANZG (2018)
Vanadium	µg/L	All bores	6	ANZG (2018)
Zinc	µg/L	All bores	8	ANZG (2018)
Ammonia	µg/L	All bores	0.9	ANZG (2018)
Fluoride	µg/L	All bores	1.7	ANZG (2018)
Nitrate	mg/L	All bores	1.1	ANZG (2018)
Major ions – Calcium, chloride, potassium, magnesium, sodium, bicarbonate, carbonate.	mg/L	All bores	For interpretation purposes	
Hardness	mg/L	All bores	For interpretation purposes	

- *All metals and metalloids must be measured as 'dissolved' (from analysis of a field filtered sample) and total (unfiltered).*
- *Limits for metals and metalloids apply to dissolved results.*
- *ANZG (2018) Aquatic ecosystem protection for slightly to moderately disturbed system (95% protection).*
- *Site-specific - derived from the 95th percentile (and 5th percentile for pH) value of site-specific data.*
- *WQO - Fitzroy groundwater: water quality objectives zone 38 deep. https://environment.qld.gov.au/__data/assets/pdf_file/0034/88774/fitzroy_callide_creek_wqo_290911.pdf*

Table 11 - Interim Groundwater pH and EC limits

Bore	pH (pH units)	Electrical Conductivity (µS/cm)
1900	6.9 – 7.8	5,520
BH_MB01	5.9 – 7.0	11,189
BH01	6.0 – 7.6	45,660
C0507663	5.9 – 7.6	1,755
DC#02	6.8 – 8.0	5,593
DC040C	6.6 – 7.7	2,400
HUT01	6.6 – 7.7	739
HUT03	6.4 – 7.6	4,115
MB07	6.5 – 7.5	1,891
MB15	5.7 – 7.5	1,324
MB23	6.0 – 7.3	1,801
MB28	5.4 – 7.4	25,300
MB29	4.5 – 6.1	947
MB36	6.5 – 8.0	2,604
R3038	6.1 – 7.5	1,800
R3076	6.5 – 7.6	1,697
R3084	6.8 – 7.8	1,326
TG01	6.4 – 7.6	1,800
TG02	6.5 – 8.5	15,703

END OF PRCP SCHEDULE