



## VICKERY COAL MINE

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### WHC PLN VCM REHABILITATION STRATEGY

# VICKERY COAL MINE REHABILITATION STRATEGY

Date	Revision Number	Version	Amendment/Addition	Consultee
October 2022	1.0	Preliminary Works Stage	Submission for Approval	DPE
November 2022	1.1	Preliminary Works Stage	DPE Feedback	DPE
January 2023	1.2	Preliminary Works Stage	Approved	DPE
June 2023	2.0	Initial Construction and Early Mining Stage	Initial Draft	Resources Regulator, DPE Water, NSC, BCD and GSC
July 2023	2.1	Revised Initial Construction and Early Mining Stage	Revision incorporating agency feedback	Resources Regulator, DPE Water, NSC, BCD and GSC

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

## CONTENTS

1	INTRODUCTION.....	1
1.1	PURPOSE AND SCOPE .....	1
1.2	CONSULTATION .....	5
1.3	STRUCTURE OF THE REHABILITATION STRATEGY .....	5
2	RELEVANT STATUTORY REQUIREMENTS AND POLICIES .....	10
2.1	DEVELOPMENT CONSENT (SSD-7480) .....	10
2.2	LICENSES, PERMITS AND LEASES .....	10
2.3	OTHER LEGISLATION.....	10
3	REHABILITATION OBJECTIVES .....	12
3.1	SPECIFIC REHABILITATION OBJECTIVES .....	12
3.2	OVERALL REHABILITATION OUTCOMES.....	13
	3.2.1 MINE CLOSURE .....	14
	3.2.2 FINAL LANDFORM .....	14
	3.2.3 POST-MINING LAND USE/S .....	16
	3.2.4 WATER MANAGEMENT .....	16
	3.2.5 TOPSOIL MANAGEMENT .....	17
3.3	MINE PLANNING PROCESS AND OPPORTUNITIES.....	18
	3.3.1 REVIEW AND REFINEMENT .....	19
3.4	PREMATURE MINE CLOSURE .....	20
4	RISKS AND OPPORTUNITIES .....	21
4.1	RISK AND OPPORTUNITY ASSESSMENT .....	21
5	POST-MINING LAND USE STRATEGY .....	22
6	STAKEHOLDER ENGAGEMENT PLAN .....	25
7	REVIEW AND IMPROVEMENT OF ENVIRONMENTAL PERFORMANCE .....	27
7.1	ANNUAL REVIEW .....	27
7.2	REHABILITATION STRATEGY REVISION.....	27
7.3	INDEPENDENT ENVIRONMENTAL AUDIT .....	28
8	REPORTING PROCEDURES .....	29
8.1	INCIDENT REPORTING.....	29
8.2	COMPLAINTS.....	30
8.3	NON-COMPLIANCE WITH STATUTORY REQUIREMENTS.....	30
9	REFERENCES.....	32

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
WHC PLN VCM REHABILITATION STRATEGY			

## Appendices

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Appendix A	Consultation Log
Appendix B	Risks and Opportunities Register
Appendix C	Mining and Rehabilitation
Appendix D	Life of Mine Schedule

## Figures

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Figure 1-1	Project Location
Figure 1-2	Vickery Coal Mine General Arrangement
Figure 1-3	Indicative Rail Spur Alignment
Figure 1-4	Construction and initial mining Activities General Arrangement
Figure 1-5	Relationship between Rehabilitation Strategy and Other Documents
Figure 3-1	Conceptual Final Landform

## Tables

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Table 1-1	Specific Rehabilitation Strategy Conditions in SSD-7480
Table 3-1	Rehabilitation Objectives
Table 3-2	Alignment of Rehabilitation Strategy with the Strategic Framework for Mine Closure
Table 6-1	Project Stakeholders and Engagement Methods

 <b>VICKERY COAL MINE</b>	Document Owner:	VCM
	Issue:	2.1
	Last Revision Date:	July 2023
	Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>		

## 1 INTRODUCTION

The Vickery Coal Mine (VCM) is located in the Gunnedah Coal Basin, approximately 25 kilometres (km) north of Gunnedah in New South Wales (NSW) (Figure 1-1). The VCM is operated by Vickery Coal Pty Limited (VCPL) (a wholly owned subsidiary of Whitehaven Coal Limited [WHC]).

Development Consent (SSD-7480) was granted to VCPL on 12 August 2020 by the NSW Independent Planning Commission as a delegate of the NSW Minister for Planning under Section 75J of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act). Development Consent SSD-7480 allows for the development of an open cut mine and associated infrastructure with a 25 year mine life, extracting run-of-mine (ROM) coal at up to 10 million tonnes per annum (Mtpa) and processing the coal, as well as coal from WHC's Tarrawonga Mine, at an on-site coal handling and processing plant (CHPP) for off-site transport by rail.

### 1.1 PURPOSE AND SCOPE

This Rehabilitation Strategy has been prepared by WHC (with input from experienced and qualified rehabilitation specialists Paul Frazier [2rog] endorsed by the Secretary of the Department of Planning, Infrastructure and Environment [DPIE] on 21 October 2020) to satisfy the requirements of Rehabilitation Strategy requirements of Condition B104 and B105, Schedule 2 of SSD-7480 (Table 1-1).

The Rehabilitation Strategy provides the overarching standard for decision making in terms of rehabilitated landscape. The Rehabilitation Strategy will be implemented as approved by the Planning Secretary and demonstrated by monitoring and reporting.

On 24 August 2022 the Secretary approved the progressive submission of the Rehabilitation Strategy for the VCM in accordance with Condition A25(a), Schedule 2 of SSD-7480. The first version of this Rehabilitation Strategy was for the Preliminary Works Stage which included preliminary investigations to enable the continuation of detailed design.

The scope of this revision of the Rehabilitation Strategy is specifically related to the Initial Construction and Early Mining Stage, which is expected to occur until mid 2026. The Initial Construction and Early Mining Stage will include construction of a Temporary Industrial Area (within the footprint of what will ultimately be the overburden emplacement) to support the development of the box cut and early mining activities. The Initial Construction and Early Mining Stage will support mining up to 3.5 Mtpa of ROM coal per year for transport to the Whitehaven CHPP in Gunnedah.

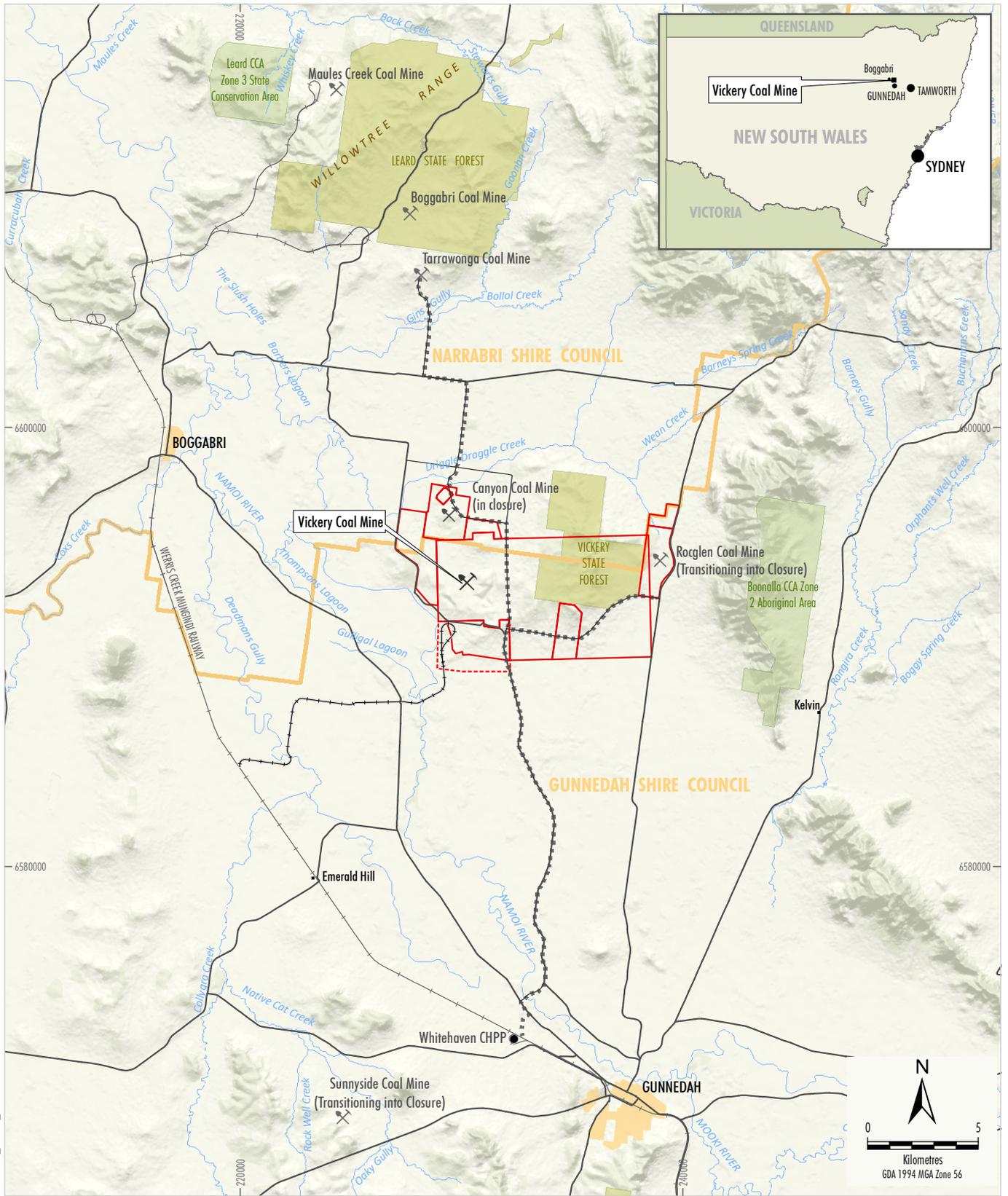
	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

The Initial Construction and Early Mining Stage does not include construction of the mine industrial area (MIA), CHPP and rail spur. Only 15.3 hectares of rehabilitation along the toe of the out of pit waste rock emplacement is scheduled to occur during the Initial Construction and Early Mining Stage as outlined in the Appendix C and Appendix D. Whitehaven will provide updated plans showing the clearing and rehabilitation across the VCM over the life of the mine in the Full Development Stage of this Rehabilitation Strategy.

Future revisions of this Rehabilitation Strategy will be prepared in consultation with the Resources Regulator, DPE Water, Narrabri Shire Council (NSC), Biodiversity Conservation Division (BCD) and Gunnedah Shire Council (GSC) prior to major construction works (i.e. construction of the MIA, CHPP and rail spur) and full-scale mining (i.e. the full development of the Vickery Coal Mine).

Further to the discussion above, the Initial Construction and Early Mining Stage will include the following activities for the period up to mid 2026:

- transport up to 3.5 Mtpa of ROM coal from the VCM per financial year to the Gunnedah CHPP via the approved haulage route until the Project rail spur is commissioned;
- construction of a temporary industrial area;
- construction of ROM and product coal stockpile pads;
- initial development of the box cut;
- construction of temporary infrastructure facilities;
- construction of temporary ROM coal stockpiles;
- construction of workshops and offices;
- construction of water supply bores and Namoi River pump station and pipelines;
- construction of dams, sediment dams, up-catchment diversions, channels and other water management infrastructure;
- construction of soil stockpile areas;
- construction of access roads and internal roads;
- closure of a portion of Braymont Road;
- construction of connection to the existing 66 kilovolt powerline and construction of substations and power supply;
- construction of ancillary infrastructure including consumable storage areas, laydown areas, explosives storage facilities;
- ongoing exploration activities; and
- other associated minor infrastructure construction, use of other plant and other minor activities.



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**LEGEND**

- Mining Tenement Boundary (ML & CL)
- Exploration Licence Boundary (EL)
- Local Government Boundary
- State Forest
- State Conservation Area, Aboriginal Area
- Major Roads
- Railway
- Approved Road Transport Route
- Indicative Project Rail Spur

**WHITEHAVEN COAL**
  
**VICKERY COAL MINE**
  
**Project Location**

Source: LPMA - Topographic Base (2010); NSW Department of Industry (2015)

**Figure 1-1**

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

**Table 1-1 – Specific Rehabilitation Strategy Conditions in SSD-7480**

VCM Development Consent (SSD-7480) Schedule 2	Relevant Rehabilitation Strategy Section
<i>B104. The Applicant must prepare a Rehabilitation Strategy for the development to the satisfaction of the Planning Secretary.</i>	This Rehabilitation Strategy
<i>(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;</i>	Section 1.1
<i>(b) be prepared in consultation with the Resources Regulator, DPIE Water, NSC, BCD and GSC;</i>	Section 1.2
<i>(c) be submitted to the Planning Secretary for approval within six months of the date of commencement of development under this consent;</i>	Section 1.2
<i>(d) build on the Rehabilitation Objectives in Table 12, describe the overall rehabilitation outcomes for the site, and address all aspects of rehabilitation including mine closure, final landform (including final void), post-mining land use/s and water management;</i>	Section 3.1 & 3.2
<i>(e) align with strategic rehabilitation and mine closure objectives and address the principles of the Strategic Framework for Mine Closure (ANZMEC and MCA, 2000);</i>	Section 3.2
<i>(f) describe how the rehabilitation measures would be integrated with the measures in the Biodiversity Management Plan referred to in condition B63;</i>	Section 1.3 & 3.1
<i>(g) describe how rehabilitation will be integrated with the mine planning process, including a plan to address premature mine closure;</i>	Section 3.3 & 3.4
<i>(h) include details of target vegetation communities and species to be established within the proposed revegetation areas;</i>	Section 3.3
<i>(i) investigate opportunities to refine and improve the final landform and final void outcomes over time;</i>	Section 3.3
<i>(j) include a risks and opportunities assessment and risk register;</i>	Section 4
<i>(k) include a post-mining land use strategy to investigate and facilitate post-mining beneficial land uses for the site (including the final void), that:</i>	Section 5
<i>(i) align with regional and local strategic land use planning objectives and outcomes;</i>	Section 5
<i>(ii) support a sustainable future for the local community;</i>	Section 5
<i>(iii) utilise existing mining infrastructure, where practicable;</i>	Section 5
<i>(iv) avoid disturbing self-sustaining native ecosystems, where practicable</i>	Section 5
<i>(l) include a stakeholder engagement plan to guide rehabilitation and mine closure planning processes and outcomes;</i>	Section 6
<i>(m) investigate ways to minimise adverse socio-economic effects associated with rehabilitation and mine closure; and</i>	Section 6
<i>(n) include a program to review and refine the final landform and final void outcomes every five years, in consultation with the Resources Regulator and GSC, NSC, to meet the relevant Rehabilitation Objectives in Table 12.</i>	Section 3.3.1
<i>(o) include details of the monitoring and management measures to ensure proper storage and protection of top soil.</i>	Section 3.2.5
<p>Schedule 2 Conditions A1</p> <p><b>OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT</b></p> <p><i>In addition to meeting the specific performance measures and criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent</i></p>	This Rehabilitation Strategy

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

The general arrangement of the VCM is shown on Figures 1-2 and 1-3. The VCM layout at the end of the Initial Construction and Early Mining Stage is shown on Figure 1-4.

Earthworks associated with the development of the above infrastructure will include the excavation of waste rock, gravel and coal material from within the VCM open cut footprint. The earthworks will include the initial development of the box cut, with a small volume of ROM coal extracted for stockpile pad treatment, commissioning activities and transport to the Gunnedah CHPP. Additionally, a small volume of coal (in the order of 10,000 m<sup>3</sup>) from WHC's other mines may be delivered to the VCM for stockpile pad treatment and CHPP commissioning activities, in accordance with the transport limits of Condition A9, Schedule 2 of Development Consent SSD-7480).

## **1.2 CONSULTATION**

In accordance with Condition B104(b), Schedule 2 of SSD-7480, and written acceptance of the staged preparation of this Rehabilitation Strategy, this document has been prepared in consultation with the Resources Regulator, DPE Water, NSC, BCD and GSC for the Initial Construction and Early Mining Stage.

The Rehabilitation Strategy was provided to the Resources Regulator, DPE Water, NSC, BCD and GSC for the purpose of consultation on 22 June 2023.

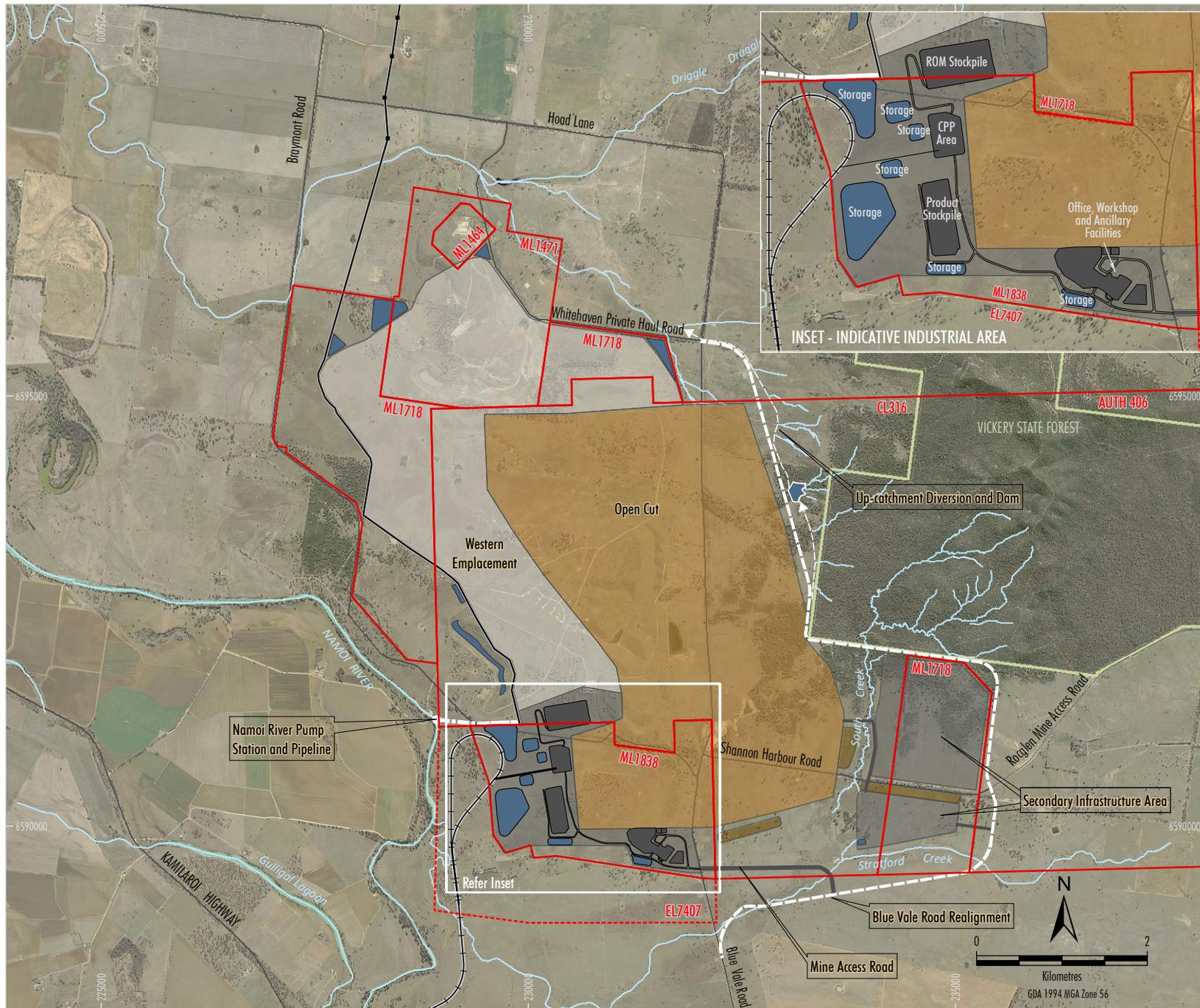
The Resources Regulator indicated that they did not have any comments of the Rehabilitation Strategy. BCD, NSC and GSC provided comments on the Rehabilitation Strategy, which have since been addressed in this version of the Rehabilitation Strategy.

The DPE Water have not provided comments at the time of writing. Whitehaven will update the Rehabilitation Strategy to address comments from this consultee (if received).

## **1.3 STRUCTURE OF THE REHABILITATION STRATEGY**

The remainder of this Rehabilitation Strategy is structured as follows:

- Section 2 Outlines the relevant statutory requirements and policies relevant to this Rehabilitation Strategy.
- Section 3 Describes the rehabilitation objectives.
- Section 4 Describes the risks and opportunities.
- Section 5 Describes the post-mining land use strategy.
- Section 6 Describes the stakeholder engagement plan.
- Section 7 Provides references cited in this Rehabilitation Strategy.

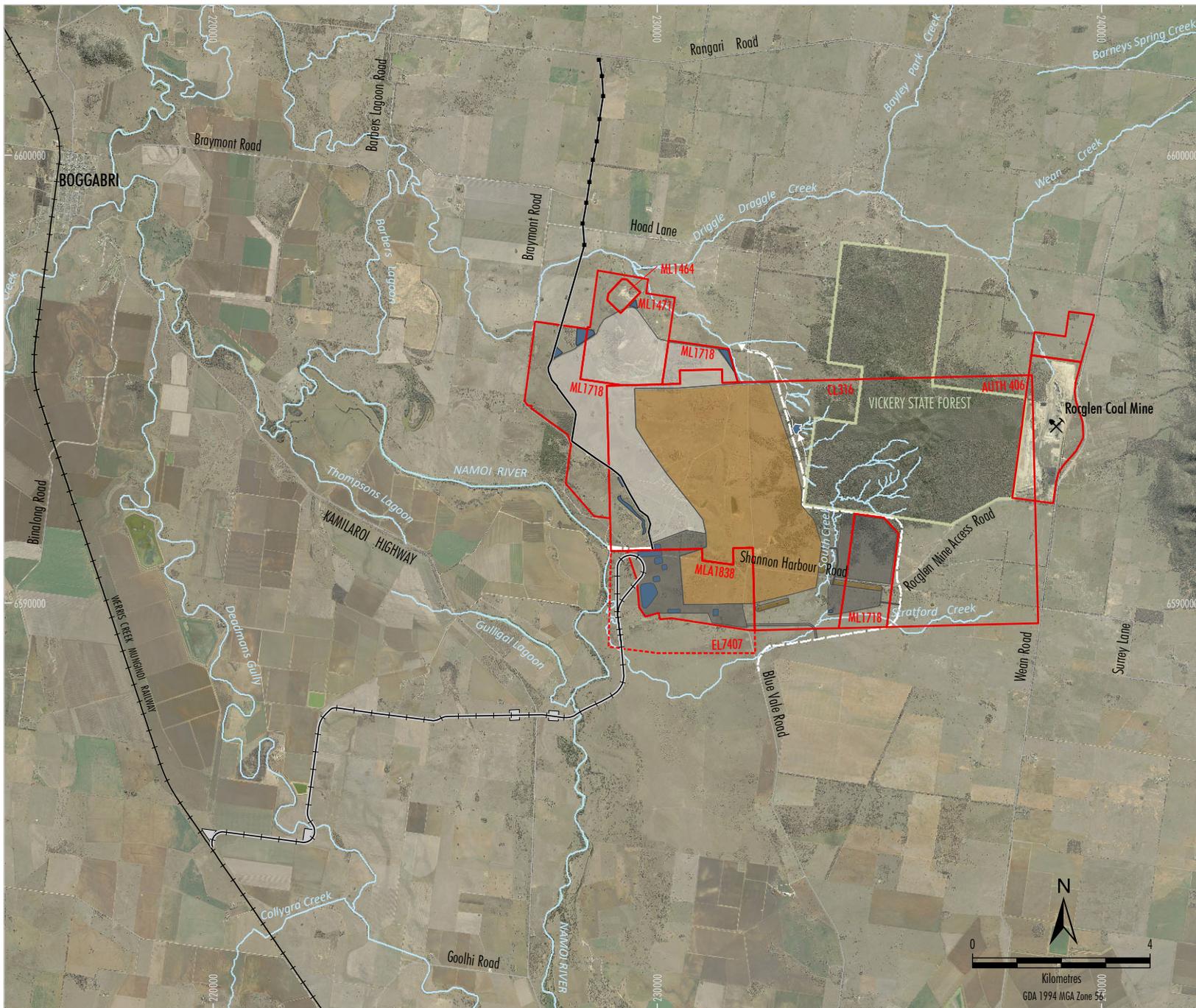


- LEGEND**
- Mining Tenement Boundary (ML & CL)
  - Exploration Licence Boundary (EL)
  - State Forest
- Project Components**
- Indicative Extent of Open Cut
  - Indicative Extent of Out of Pit Waste Rock Emplacement
  - Indicative Extent of Infrastructure Area
  - Indicative Extent of Soil Stockpile
  - Indicative Extent of Water Storage
  - Indicative Mine Access Road Alignment
  - Indicative Namoi River Pump Station and Pipeline
  - Indicative Road Realignment
  - Indicative Up-catchment Diversion and Dam Location
  - Indicative Rail Spur Alignment
  - Indicative Location of Groundwater Bores and Pipeline

Source: Orthophoto - Department of Land and Property Information, Aerial Photography (July 2011); Department of Industry (2015); Essential Energy (2015)

  
**VICKERY COAL MINE**  
**General Arrangement -**  
**VCM Mining Area**

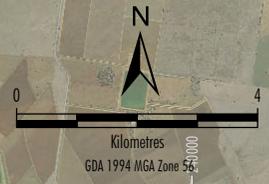
**Figure 1-2**



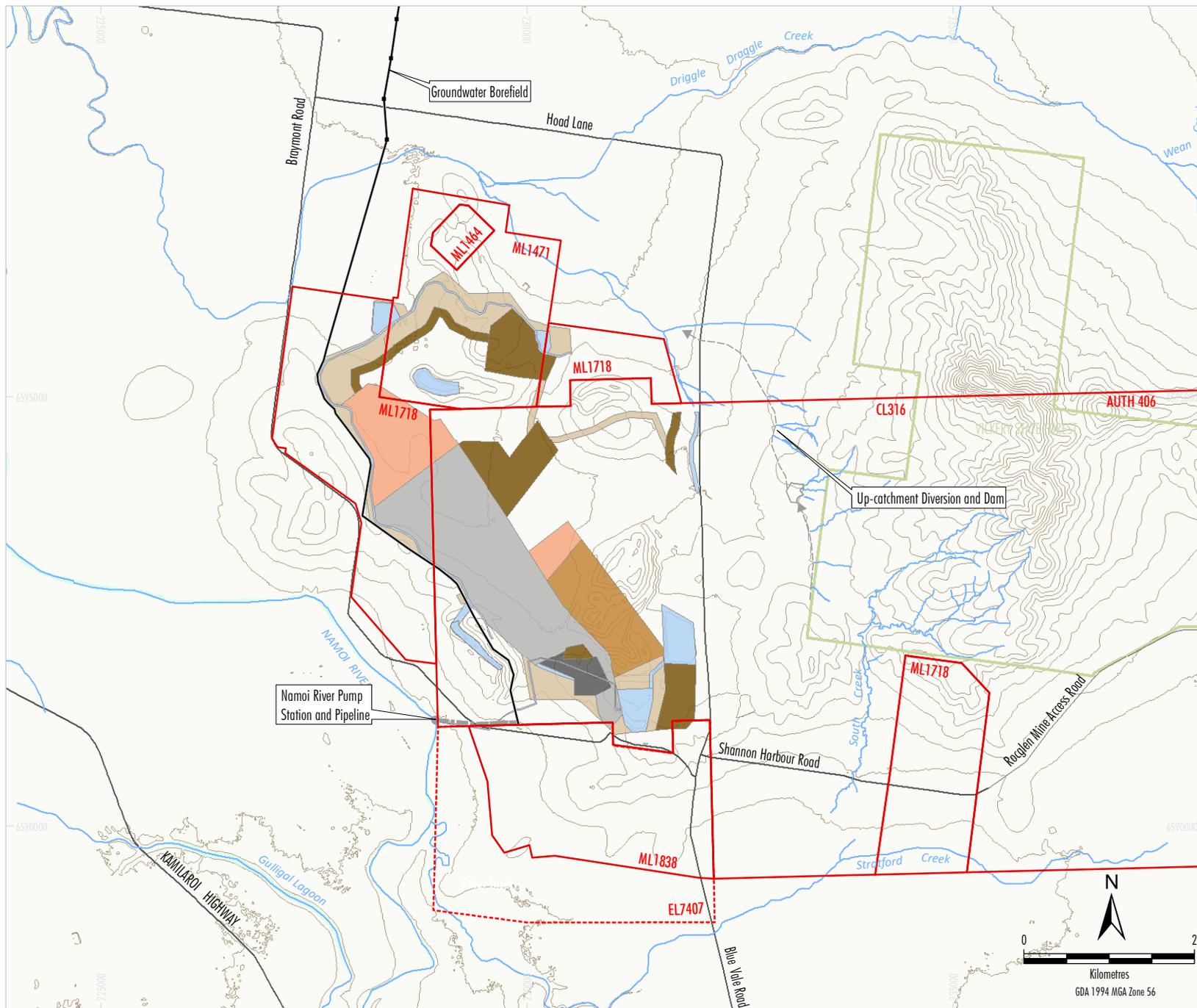
- LEGEND**
- Mining Tenement Boundary (ML & CL)
  - Exploration Licence Boundary (EL)
  - State Forest
  - Railway
- Project Components**
- Indicative Extent of Open Cut
  - Indicative Extent of Out of Pit Waste Rock Emplacement
  - Indicative Extent of Infrastructure Area
  - Indicative Extent of Soil Stockpile
  - Indicative Extent of Water Storage
  - Indicative Mine Access Road Alignment
  - Indicative Road Realignment
  - Indicative Namoi River Pump Station and Pipeline
  - Indicative Up-catchment Diversion and Dam Location
  - Indicative Rail Spur Alignment and Laydown Areas
  - Indicative Location of Groundwater Bores and Pipeline

Source: Orthophoto - Department of Land and Property Information, Aerial Photography (July 2011); Department of Industry (2015)

  
**VICKERY COAL MINE**  
 Indicative Rail Spur Alignment



**Figure 1-3**



- LEGEND**
- Mining Tenement Boundary (ML & CL)
  - Exploration Licence Boundary (EL)
  - State Forest
  - Indicative Namoi River Pump Station and Pipeline
  - Indicative Up-catchment Diversion and Dam Location
  - Indicative Location of Groundwater Bores and Pipeline
  - Active Mining Area
  - Temporary Industrial Area
  - Other (Roads and Access)
  - Overburden Emplacement
  - Topsoil Stockpile
  - Topsoil Stripped
  - Water Management

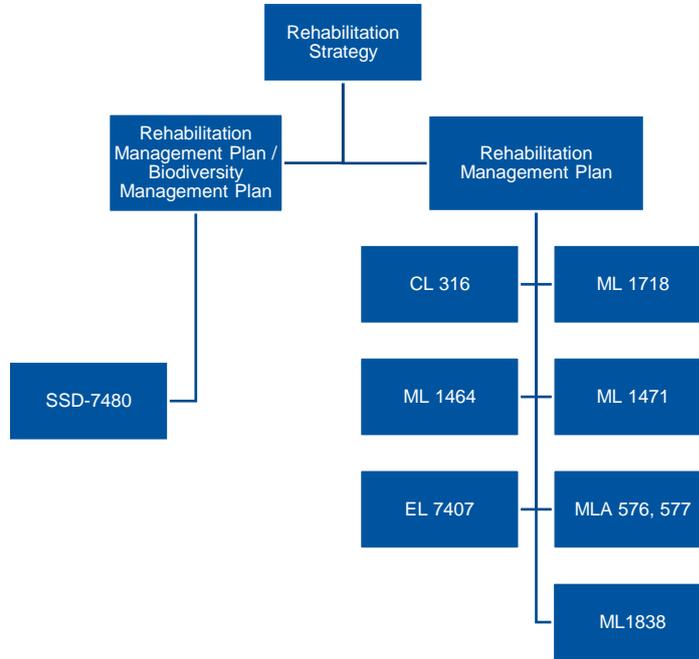
Source: Orthophoto - Department of Land and Property Information, Aerial Photography (July 2011); Department of Industry (2015); Essential Energy (2015)

**WICKERY COAL MINE**  
 Construction and Initial Mining Activities  
 Indicative General Arrangement

**Figure 1-4**

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

Figure 1-5 identifies the relationship between the Rehabilitation Strategy and other documents.



**Figure 1-5 Relationship Between Rehabilitation Strategy and Other Documents**

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

## 2 RELEVANT STATUTORY REQUIREMENTS AND POLICIES

WHC's statutory obligations relevant to the rehabilitation strategy are contained in:

- the conditions of SSD-7480;
- the relevant licences and permits, including conditions attached to mining leases; and
- other relevant legislation.

Obligations relevant to this Rehabilitation Strategy are described below.

### 2.1 DEVELOPMENT CONSENT (SSD-7480)

The conditions of SSD-7480 relevant to the content and structure of this Rehabilitation Strategy are described in Table 1-1 and Section 1.1.

### 2.2 LICENSES, PERMITS AND LEASES

In addition to SSD-7480, activities associated with the VCM will be undertaken in accordance with the following licences, permits and leases:

- Coal Lease (CL) 316, Exploration Licence (EL 7407), Mining Leases (MLs) 1718, 1471, 1838 and 1464.
- The RMP and Forward Program.
- Environment Protection Licence (EPL) No. 21283.
- Mining and workplace health and safety related approvals.

### 2.3 OTHER LEGISLATION

In addition to the statutory obligations described above, the following NSW Acts (and their regulations) may be applicable to the conduct of the VCM:

- *Biodiversity Conservation Act, 2016*;
- EP&A Act;
- *Mining Act, 1992*;
- *Protection of the Environment Operations Act, 1997 (PoEO Act)*;
- *Water Act, 1912*; and
- *Water Management Act, 2000*.

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

Other guidelines and standards that were considered during the preparation of this Rehabilitation Strategy include, but are not limited to:

- *Leading Practice Sustainable Development Program for the Mining Industry – Mine Rehabilitation (Commonwealth of Australia, 2016a).*
- *Leading Practice Sustainable Development Program for the Mining Industry – Mine Closure (Commonwealth of Australia, 2016b).*
- *Strategic Framework for Mine Closure (Australian and New Zealand Minerals and Energy Council (ANZMEC) and Minerals Council of Australia (MCA), 2000).*

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
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		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

### 3 REHABILITATION OBJECTIVES

#### 3.1 SPECIFIC REHABILITATION OBJECTIVES

Over the life of the Project, VCM will require the progressive disturbance of 3,037.8 hectares (ha) which includes a mix of grassland, native woodland/forest, rehabilitation and cleared land. The rehabilitation objectives and measures for the VCM are detailed in Tables 9 and 12 of the development consent (SSD-7480, as replicated in Table 3-1 below). WHC are committed to ensure that all rehabilitated areas of the site affected by development are:

- safe, stable and non-polluting;
- fit for the intended post mining land use/s;
- establish the final landform and post-mining land use/s as soon as practicable after cessation of mining operations; and
- minimise post mining environmental impacts.

Whitehaven will review the Biodiversity Management Plan following the Initial Construction and Early Mining Stage. Learnings from the rehabilitation of the 15.3 ha area including effectiveness of topsoil management (Section 3.2.5), selection of native species (Section 3.3) and weed and pest management will be incorporated into future revisions of the Biodiversity Management Plan and the Rehabilitation Strategy for the Full Development Stage.

**Table 3-1 – Rehabilitation Objectives**

Feature	Objective
All areas of the site affected by the development	<ul style="list-style-type: none"> <li>▪ Safe, stable and non-polluting</li> <li>▪ Fit for the intended post-mining land use/s</li> <li>▪ Establish the final landform and post-mining land use/s as soon as practicable after cessation of mining operations</li> <li>▪ Minimise post-mining environmental impacts</li> </ul>
Areas proposed for native ecosystem re-establishment	<ul style="list-style-type: none"> <li>▪ Establish/restore self-sustaining native open woodland ecosystems</li> <li>▪ Establish local plant community types</li> <li>▪ Establish: <ul style="list-style-type: none"> <li>- riparian vegetation, within any diverted and/or re-established creek lines and retained water features;</li> <li>- habitat, feed and foraging resources for threatened fauna species; and</li> <li>- vegetation connectivity and wildlife corridors, as far as is reasonable and feasible</li> </ul> </li> </ul>
Areas proposed for agricultural land	<ul style="list-style-type: none"> <li>▪ Establish/restore grassland areas to support sustainable agricultural activities</li> <li>▪ Use species found in the local area that are suitable for pasture production</li> <li>▪ Achieve land and soil capabilities that are equivalent or better than pre-mining</li> <li>▪ Locate adjacent to surrounding agricultural land, where practicable</li> </ul>

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
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		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

**Table 3-1 (Continued) – Rehabilitation Objectives**

Feature	Objective
Final Landform	<ul style="list-style-type: none"> <li>▪ Stable and sustainable for the intended post-mining land use/s</li> <li>▪ Integrated with surrounding natural landforms, integrate with rehabilitation measures of the Biodiversity Management Plan, and other mine rehabilitated landforms, to the greatest extent practicable</li> <li>▪ Incorporate macro-relief and micro-relief and drainage features that mimic natural topography and mitigate erosion, to the greatest extent practicable</li> <li>▪ Maximise surface water drainage to the natural environment, excluding final void catchment (i.e. free draining)</li> <li>▪ Reduce highwall slopes to a maximum of 18 degrees (excluding slopes below the post-mining standing water level in any final void)</li> <li>▪ Minimise visual impacts, where practicable</li> </ul>
Final void	<ul style="list-style-type: none"> <li>▪ Designed as long term groundwater sink to prevent the release of polluting water into the surrounding environment, unless further mine planning and final landform design processes identify a more suitable outcome for the final void (see condition B104)</li> <li>▪ Optimise the size and depth of any final voids and ensure the final landform is stable and non-polluting</li> <li>▪ Minimise to the greatest extent practicable:               <ul style="list-style-type: none"> <li>- the drainage catchment of final voids;</li> <li>- any high wall instability risk; and</li> <li>- the risk of flood interaction</li> </ul> </li> <li>▪ Maximise potential for beneficial reuse, where practicable</li> </ul>
Surface infrastructure of the development	<ul style="list-style-type: none"> <li>▪ To be decommissioned and removed, unless the Resources Regulator agrees otherwise</li> <li>▪ Structures over the Kamilaroi Highway to be demolished and removed, unless Transport for NSW (TfNSW) agrees otherwise</li> </ul>

The rehabilitation objectives in Development Consent ([SSD-7480], as replicated in Table 3-1 above) apply to the entire site, including all landforms constructed under either this consent or previous consents. However, the VEP is not required to undertake any additional earthmoving works on landforms that have been approved and constructed under previous consents consistent with condition B102.

### **3.2 OVERALL REHABILITATION OUTCOMES**

The overall rehabilitation goal for the Project mining area is to enhance the cover and connectivity of native woodland, while retaining some areas of agricultural land capable of supporting cattle grazing. The rehabilitation and mine closure objectives for the Project are detailed in the RMP. The RMP specifies how the below goals will be integrated with the management actions and are summarised in Section 3.2.1 to 3.2.5. The overall rehabilitation outcomes align with strategic rehabilitation and mine closure objectives and address the principles of the Strategic Framework for Mine Closure (ANZMEC and MCA, 2000). Table 3-2 provides a reconciliation of how the Rehabilitation Strategy aligns with the principles of the Strategic Framework for Mine Closure (ANZMEC and MCA, 2000).

 <b>VICKERY COAL MINE</b>	Document Owner:	VCM
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	Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>		

**Table 3-2 – Alignment of Rehabilitation Strategy with the Strategic Framework for Mine Closure**

Strategic Framework for Mine Closure Principle	Alignment with Principle
Identification of stakeholders and interested parties is an important part of the closure process.	Relevant stakeholder and interested parties for closure of the mine were identified through the Vickery Extension Project Environmental Impact Statement approval process. In addition to those stakeholders consulted during the preparation of the Rehabilitation Strategy as per Condition B104, Whitehaven will engage with members of the Community Consultative Committee (CCC) about mine closure planning and objectives.
Effective consultation is an inclusive process which encompasses all parties and should occur throughout the life of the mine.	Planning for mine closure will be conducted over the life of the Project, in consultation with the GSC, NSC, DPE and the local community (via the CCC). Feedback received from relevant stakeholders will be considered in future revisions of the Rehabilitation Strategy.
A targeted communication strategy should reflect the needs of the stakeholder groups and interested parties.	Whitehaven will undertake regular communications with the relevant stakeholders and interested parties through its CCC meetings and meetings with government agencies.
Adequate resources should be allocated to ensure the effectiveness of the consultation process.	Whitehaven has dedicated teams and roles for community engagement and rehabilitation of its mining operations.
Wherever practical, work with communities to manage the potential impacts of mine closure.	Planning for mine closure will be conducted over the life of the Vickery Coal Mine, in consultation with the GSC, NSC, DPE and the local community (via the CCC), and will consider the amelioration of potential adverse socio-economic effects due to the reduction in employment at Project closure.

### 3.2.1 Mine Closure

Following mine closure, two voids will remain. The voids include the existing Blue Vale Void and the approved Vickery Void. Subject to no further use for the infrastructure being identified, the site infrastructure will be decommissioned and the disturbed land will be rehabilitated to land suitable for agricultural use unless otherwise agreed with relevant government agencies and landholders.

Planning for mine closure will be conducted over the life of the Project, in consultation with the GSC, NSC, DPE and the local community, and will consider the amelioration of potential adverse socio-economic effects due to the reduction in employment at Project closure.

### 3.2.2 Final Landform

The final landform outcomes are to provide safe, stable and non-polluting landforms that complement existing surrounding landforms in terms of slope, geomorphological characteristics, vegetation and land use. The conceptual final landform is shown in Figure 3-1, as presented in the VEP EIS.



- LEGEND**
- State Forest
  - Indicative Up-catchment Diversion
  - Indicative Extent of Water Storage
  - Indicative Constructed Channels
  - Indicative Pasture Area
  - Indicative Woodland/Forest Area
  - Indicative Final Void Pit Lake
  - Indicative Final Void Highwall
  - Indicative Final Void Perimeter Bund

Source: Department of Land and Property Information (2014);  
Department of Industry (2015)

**Figure 3-1**

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

### 3.2.3 Post-Mining Land Use/s

The final outcome for the post mining land use is to revegetate the mine landforms to predominately native open woodland. The Strategy for open woodland revegetation is to increase these areas to enhance the biodiversity value of the rehabilitated mining area and improve the connectivity of woodland between the Vickery State Forest and Namoi River.

The mine infrastructure area will be rehabilitated with predominately groundcover (i.e. grass species) and scattered trees that will return these areas to land suitable for grazing. The mine infrastructure area will be returned to the existing agricultural suitability of the areas (i.e. Class 3 and Class 4 Agricultural suitability land).

### 3.2.4 Water Management

Rehabilitation of sediment dams and associated water infrastructure (e.g. such as drainage contours and diversion drains) will be further defined in future revisions of this Rehabilitation Strategy and prior to mine closure planning. The rehabilitation of final voids will be co-ordinated towards creating a safe, stable and non-polluting post-mining landform.

The rehabilitation outcomes for water management include the construction of the waste rock emplacement to incorporate micro-relief and landform features (macro-relief) similar to the natural landforms found in the Vickery State Forest whereby the final top layer of the waste rock emplacement will be constructed so that runoff drains in a natural, stable manner that minimises the use of engineered drop structures as far as practical.

Water management of the VCM post-mine closure were considered during preparation of the Vickery Extension Project EIS and RMP. Wherever possible, water management structures will be established in locations where they can remain for the life of the mine, however in some cases water management structures will be temporary, and will need to be relocated (e.g. as the open cut and waste emplacement are progressively developed and rehabilitated).

Following closure, the two mine water dams and three coal contact water dams will be removed and the area rehabilitated to land suitable for cattle grazing, consistent with the existing Agricultural Suitability of these areas (i.e. Class 3 and 4 Agricultural Suitability Land).

Following the establishment of self-sustaining, stable final landforms, key elements of the operational sediment control structures will be removed unless otherwise agreed with the relevant government agencies and landholders (e.g. the sediment dams may be retained for agricultural purposes or as passive water control storages).

Elements of the final landform such as constructed channels will be shaped, as much as practical, to undulating profiles in keeping with natural landforms of the surrounding environment. Water management structures will be designed to collect surface runoff from rehabilitation or disturbed areas.

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
WHC PLN VCM REHABILITATION STRATEGY			

Water management areas to be retained following closure of the VCM are shown on Figure 3-1 and Appendix C.

### 3.2.5 Topsoil Management

Topsoil will be stripped and managed in accordance with the Land Disturbance Permit (LDP) to ensure health of soil for later use in rehabilitation. Topsoil materials at the VCM are generally non-saline. In order to understand the selective handling of materials, characterisation of soils and overburden will be undertaken throughout the development of mining at the VCM. Topsoil and subsoil characterisation will be undertaken in order to:

- identify any physical or chemical deficiencies or limiting factors (including salinity) which may affect vegetation establishment and landform stability;
- develop selective placement strategies and/or develop suitable amelioration techniques; and
- overburden and soil characterisation will be used to inform the future rehabilitation of the site.

Any long-term soil stockpiles will be managed to maintain long-term soil viability through the implementation of relevant management practices as listed below:

- Soil stockpiles will be retained at a height of up to 3 m, with slopes no greater than 1:2 (vertical to horizontal [V:H]) and a slightly roughened surface to minimise erosion.
- Soil stockpiles will be constructed to minimise erosion, encourage drainage, and promote revegetation.
- Additions such as lime, gypsum and fertiliser will be applied to stockpiles where needed to improve the condition of stripped soil.
- Wherever practicable, soil will not be trafficked, deep ripped or removed in wet conditions to avoid breakdown in soil structure.
- All soil stockpiles will be seeded with a non-persistent cover crop to reduce erosion potential as soon as practicable after completion of stockpiling. Where seasonal conditions preclude adequate development of a cover crop, stockpiles will be treated with a straw/vegetative mulch to improve stability.
- Soil stockpiles will be located in positions to avoid surface water flows. Silt stop fencing will be placed immediately down-slope of stockpiles until stable vegetation cover is established.
- An inventory of soil resources (available and stripped) on the VCM will be maintained and reconciled annually with rehabilitation requirements.
- Weed control programs will be implemented on soil stockpiles if required.

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

To identify what level of ameliorant is sufficient, a qualified agronomist will undertake inspections of stockpiles on a quarterly basis to determine if physical and/or chemical amelioration is required and suitability for rehabilitation use. If any areas of concern are identified by the agronomist, further investigation will be undertaken which may include sampling and analysis for key parameters. Testing and monitoring programs (i.e. monitoring reports) will be undertaken in accordance with relevant management documentation (e.g. Forward Program and Rehabilitation Management Plan).

Rehabilitation monitoring reports will be prepared annually and aim to document the annual spring monitoring results and provide a quantitative assessment of rehabilitation performance against nearby unmined (i.e. control) landscapes.

### **3.3 MINE PLANNING PROCESS AND OPPORTUNITIES**

Rehabilitation is integrated with the mine planning process and is governed by mining titles, environmental assessments, project approval conditions and licences. Rehabilitation will be undertaken progressively during the life of the mine which brings about a reduction in environmental impacts and enables efficiencies through integration of equipment use during mining and rehabilitation.

Over the life of the mine, native species to be planted in revegetation areas will be selected on a site by site basis depending on pre-existing vegetation, nearby remnant vegetation associations, soil types, aspect and site conditions.

The woodland rehabilitation areas will aim to reflect the main vegetation community that will be disturbed at VCM which includes Dry Sclerophyll Forests and their associated shrub and grass sub-formation (e.g. PCT 1308, VEP EIS, Appendix F). White Box – White Cypress Pine shrubby open forest of the Nandewar and Brigalow Belt South Bioregions (BVT NA225). The species in this PCT include Kurrajong, white cypress pine, white box, silver ironbark and narrow leaved grey box.

Over the life of the mine, approximately 2,385 ha of the VCM landforms will be revegetated to one or more of the native woodland/forest vegetation types (e.g. PCT 1308) that occur in the surrounding sub-region, and are the same vegetation class as required to be provided as part of the Biodiversity Offset Strategy.

The grazing land rehabilitation will be returned to the existing agricultural suitability of the areas (i.e. Class 3 and 4 Agricultural suitability land).

Interim stabilisation and temporary vegetation strategies will be employed such as the use of cover crops and slope stabilisation techniques, including applicable erosion control measures.

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

### 3.3.1 Review and Refinement

The final landform and final void outcomes have the opportunity to be refined over time, specifically through the mine planning process. Detail on the mining plan and progress, as well as topsoil management and target vegetation species and communities is provided in the RMP for the mine as it is developed and associated reporting on an annual basis. The ongoing refinement and improvement of the final landform and final void will be subject to rehabilitation monitoring reports which are prepared annually and include:

- monitoring of grazing areas (using a combination of pasture attributes);
- native vegetation surveys;
- terrestrial fauna and habitat surveys; and
- analysis of results including statistical analysis (where appropriate).

Information obtained from the above monitoring and reporting will be considered in future revisions of this Rehabilitation Strategy.

Factors that could be considered include planning to consider the logical sequence of forming the waste emplacement area, water management, final void outcomes and progressive rehabilitation.

Every five years, the final landform and final void outcomes are to be reviewed and refined in consultation with the Resources Regulator (RR), Gunnedah Shire Council (GSC) and Narrabri Shire Council (NSC), to meet the relevant Rehabilitation Objectives in Table 12 of SSD-7480. WHC implements an action tracking system within an internal software management system to ensure reoccurring review of the Rehabilitation Strategy and its associated documents are conducted on a five-yearly basis. These documents are then presented to the RR, NSC and GSC for external consultation.

In accordance with Condition B103 of Development Consent SSD-7480, the program will be reviewed and refined, every five years, in consultation with the RR, GSC and NSC, DPE Water and BCD to meet the relevant Rehabilitation Objectives in Table 12 of Development Consent SSD-7480. Whitehaven will review and refine the final landform and final void outcomes in this Rehabilitation Strategy prior to the preparation of the Rehabilitation Strategy for the Full Development Stage.

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

### 3.4 PREMATURE MINE CLOSURE

In the case of premature mine closure, the Department of Regional NSW – Division of Mining, Exploration and Geoscience (MEG) ensures the appropriate rehabilitation cost estimate (RCE) for mining authorisations is held, along with the appropriately valued security deposit. Whitehaven are required to submit a RCE whenever a potential change in rehabilitation liability occurs and at other key points throughout the tenure of an authorisation. This ensures that the MEG have the appropriate security deposit to cover the costs in undertaking rehab in the event of default and to minimise potential liabilities to the state. A list of the relevant mining authorisations is listed in Section 2.2.

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

## 4 RISKS AND OPPORTUNITIES

### 4.1 RISK AND OPPORTUNITY ASSESSMENT

A Risks and Opportunities Register was undertaken by Whitehaven on 3 May 2023 in accordance with Condition B104 of Development Consent SSD 7480 and in consideration of Guideline: Rehabilitation Risk Assessment and the Joint Australian and New Zealand Standard AS/NZS 31000:2009 Risk Management – Principles and Guidelines (Standards Australia). The Register is provided in Appendix B.

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

## 5 POST-MINING LAND USE STRATEGY

Whitehaven has considered potential post-mining land uses (e.g. nature conservation and agriculture) taking into account relevant strategic land use objectives of the area in the vicinity of the Project and the potential benefits of the post-mining land use to the environment, future landholders and the community (Figure 3-1).

The conceptual post-mining land uses align with regional and local strategic land use planning objectives and outcomes, supports a sustainable future for the local community, utilises existing mining infrastructure, and avoids disturbing self-sustaining native ecosystems, where practicable. Regional objectives or outcomes described in the following State Environmental Planning Policies (SEPPs) are relevant to the VCM:

- *State Environmental Planning Policy (State and Regional Development) 2011;*
- *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007;*
- *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;*
- *State Environmental Planning Policy No. 44 – Koala Habitat Protection;*
- *State Environmental Planning Policy No 55 – Remediation of Land;* and
- *State Environmental Planning Policy (Infrastructure) 2007.*

The rehabilitation and closure of the VCM will be undertaken in accordance with the latest version of the:

- Gunnedah LEP 2012;
- Narrabri LEP 2012; and
- Narrabri Local Strategic Planning Statement.

The NSC plans to prepare and implement a “Mining Areas Land Use Strategy” as outlined in the Narrabri Local Strategic Planning Statement. Upon its finalisation, Whitehaven will consider the Mining Areas Land Use Strategy in future revisions of the Rehabilitation Strategy.

The conceptual post-mining land uses of the Project will continue to comprise a combination of nature conservation (woodland) and agricultural (pasture) land uses. Disturbance is approached in a progressive nature, and disturbance of self-sustaining native ecosystems is avoided, where practicable.

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

Self-sustaining native ecosystems present (i.e. woodland/forest) are a recognisable vegetation type that is listed in the *NSW BioNet Vegetation Information System: Classification* (OEH, 2016) as required by the *NSW Biodiversity Offset Policy for Major Projects* (OEH, 2014). Disturbance of self-sustaining ecosystems by post-mining land uses will be avoided by limiting agricultural activities (e.g. grazing) to the areas established for this purpose.

The conceptual final landform and revegetation program will provide for approximately 15.3 ha of native woodland/forest for the Initial Construction and Early Mining Stage.

The conceptual post-mining land uses will be consistent with the surrounding existing land uses (e.g. vegetation and fauna habitat in the Vickery State Forest and along the Namoi River and cattle grazing on flatter, lower lying areas).

Rehabilitation monitoring results will be used to confirm rehabilitation areas are on a trajectory towards a self-sustaining ecosystem and meeting the rehabilitation completion criteria. Monitoring results will also be used to determine the recommendations and requirements for maintenance and/or contingency measures (e.g. supplementary plantings, weed control and erosion repair) to improve rehabilitation performance and avoid disruption to self-sustaining ecosystems, where practicable and will also be provided further in the Full Development Stage of this Rehabilitation Strategy.

Future revisions of the Rehabilitation Strategy will include consideration of the proposed areas of woodland/forest revegetation to enhance the biodiversity value of the rehabilitated mining area and improve the connectivity of woodland between the Vickery State Forest and the Namoi River.

The conceptual post-mining land uses are also generally consistent with the aims of the Gunnedah and Narrabri LEPs (e.g. to conserve and enhance the quality of valuable environmental assets and provide for ecologically sustainable agriculture).

Revegetation trials will be used to inform the ultimate land use for the VCM. Revegetation trials will be used to determine species types and soil and weed management practices to be used to achieve the VCM post-mining land use objectives. Revegetation trials will be undertaken by an appropriately qualified and experienced person to identify the success of rehabilitation and identify any additional measures required to achieve ongoing rehabilitation success. The frequency of trials will be annually initially, with the frequency reviewed based on monitoring results. Rehabilitation monitoring reports will be prepared that includes a summary of previous monitoring reports, results of the current year's monitoring and planned remedial works, if required. Outcomes of the trials will be incorporated into future revisions of this Rehabilitation Strategy for the Full Development Stage (e.g. additional rehabilitation measures if deemed necessary).

The conceptual final landform has been designed to integrate with the surrounding natural landforms, including consideration of elevation, slope and drainage.

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

Natural landforms in the vicinity of the Project are characterised by:

- Dissected and steep topography within the Vickery State Forest to the east of the Project, which rises to an elevation of approximately 479 m Australian Height Datum (AHD).
- Undulating grazing lands in the Project mining area with ephemeral drainage lines and some woodland regrowth associated with rehabilitated mining areas.
- To the north, south and west of the Project mining area the topography is gently sloping to almost flat, and generally drains towards the Namoi River.
  - These floodplain areas typically have elevations of between 250 to 260 m AHD.
  - Ephemeral drainage lines, with ‘headwater’ stream types typically in the steep topography within Vickery State Forest and ‘valley fill’ stream types typically found on the flatter areas (Fluvial Systems, 2012).
- The final landform has been designed to integrate with the surrounding natural landforms (i.e. Vickery State Forest) and to support a sustainable future for the local community (including agricultural land suitable for grazing):
  - A waste rock emplacement incorporating natural landform design features (i.e. micro-relief and macro-relief) that reflect characteristics of the topography found in the adjacent Vickery State Forest (e.g. elevated landforms with steeper slopes in some areas relative to the surrounding plains).
  - Drainage features designed to be stable in the long-term.
  - Rehabilitated infrastructure areas and rail corridor that are flat and contiguous with the surrounding agricultural areas.
- Key features relating to long-term management of the post-mining landform includes:
  - The final void will maintain a suitable factor of safety for long-term stability of the final void highwalls.
  - Installation of perimeter bund around final void.
  - Ongoing site maintenance including bushfire management, feral animal and weed control and long-term water management structures.

Upon its finalisation, Whitehaven will consider the NSC’s Mining Areas Land Use Strategy in future revisions of this Rehabilitation Strategy.

Decommissioning, demolition, and removal of infrastructure from the mine site will generally be undertaken during the mine closure phase. Any infrastructure including dams, roads and buildings which is beneficial for future use by post mining landowners may be left in place subject to relevant landowner agreements and regulatory approvals.

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

## 6 STAKEHOLDER ENGAGEMENT PLAN

Throughout the preparation of the EIS, approval application, and public exhibition process, an extensive consultation program was undertaken by WHC.

The key stakeholders relevant to the currently approved and proposed Project, and engagement methods that have been adopted for each, are summarised in Table 6-1. The consultation undertaken during the preparation of the EIS were in accordance with the respective Secretary's Environmental Assessment Requirements (SEARs) and is adequate and appropriate for a State Significant Development under Part 4 of the EP&A Act.

**Table 6-1 – Project Stakeholders and Engagement Methods**

Project Stakeholders and engagement methods
Key New South Wales Government agencies were consulted during the preparation of the EIS.
Commonwealth government engagement on referral under Commonwealth Environment Protection and Biodiversity Conservation Act, 1999.
Engagement with GSC & NSC in the VCP development.
Community information days.
Bore census and landholder engagement, including newsletters.
Aboriginal community engagement in accordance with Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.
Engagement with Local Government Agencies, NSW State Government Agencies, Infrastructure owners and services providers and Australian Federal Agencies in the preparation of the VEP EIS. Ongoing consultation occurs, and will continue to occur as the development application is considered and progressed by the appropriate authorities.
Engagement with GSC and NSC in the VEP EIS development, application and Voluntary Planning Agreement (VPA).
Community Consultative Committee (CCC) Meetings are run by WHC to provide updates of the Project to Narrabri and Gunnedah Shire Councils and Community Representatives.
Public Consultation with the local community and landowners including a newsletter, meetings to discuss potential impacts, updates and fact sheets.
Aboriginal community engagement in accordance with Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.

As described in Section 3.3.1, every five years, the final landform and final void outcomes are to be reviewed and refined in consultation with the Resources Regulator (RR), Gunnedah Shire Council (GSC) and Narrabri Shire Council (NSC), DPE Water and BCD to meet the relevant Rehabilitation Objectives in Table 12 of SSD-7480 (Table 3-1).

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

During ongoing consultation with NSC, GSC and the local community (via the CCC meetings) for the Initial Construction and Early Mining Stage of the VCM, mitigation and management measures will be investigated to minimise any adverse socio-economic effects associated with rehabilitation and mine closure. Outcomes of the ongoing consultation in regard to rehabilitation and associated socio-economic effects will be included in future revisions of this Rehabilitation Strategy. The stakeholder engagement plan will provide an opportunity for feedback from consulted parties and consideration of aspects that can be further improved within rehabilitation practices, where practicable. A future mine closure plan will be developed prior to formal closure that will require input and consultation to guide post-mining outcomes.

In accordance with Condition E5, Schedule 2 of SSD 7480, this Rehabilitation Strategy will be reviewed, and if necessary revised (to the satisfaction of the Secretary), within three months of the submission of:

- an Annual Review (Condition E9, Schedule 2);
- an Independent Environmental Audit (IEA) (Condition E10, Schedule 2);
- an incident report (Condition E7, Schedule 2); or
- any modification to the conditions of SSD 7480 (unless the conditions require otherwise).

The revision status of this Rehabilitation Strategy is indicated on the first page of each copy. The approved Strategy will be made publicly available on the WHC website, in accordance with Condition E14(a), Schedule 2 of SSD 7480.

As described above, planning for mine closure will be conducted over the life of the VCM, in consultation with the RR, GSC and NSC, DPE Water and BCD, and will include consideration of amelioration of potential adverse socio-economic effects due to the reduction in employment at VCM closure. Prior to the mine closure of the VCM, this Rehabilitation Strategy will be reviewed to ensure adverse socio-economic effects associated with rehabilitation and mine closure is effectively minimised.

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

## **7 REVIEW AND IMPROVEMENT OF ENVIRONMENTAL PERFORMANCE**

### **7.1 ANNUAL REVIEW**

In accordance with Condition E9, Schedule 2 of SSD-7480, WHC will review the environmental performance of the VCM for the previous calendar year and report results within the Annual Review to the satisfaction of the Secretary.

In relation to rehabilitation, the Annual Review will (where relevant):

- describe the development that was carried out in the relevant calendar year, and the development that is proposed to be carried out during the following calendar year;
- include a comprehensive review of the monitoring results and complaints records of the development over the past year, which includes a comparison of these results against the:
  - relevant statutory requirements, limits or performance measures/criteria;
  - monitoring results of previous years; and
  - relevant predictions in the EIS.
- identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
- identify any trends in the monitoring data over the life of the development;
- identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
- describe what measures will be implemented over the next reporting year to improve the environmental performance of the development.

The Annual Review will be made publicly available on the WHC website in accordance with Condition E14, Schedule 2 of SSD-7480.

### **7.2 REHABILITATION STRATEGY REVISION**

In accordance with Condition E5, Schedule 2 of SSD-7480, this Rehabilitation Strategy will be reviewed, and if necessary revised (to the satisfaction of the Secretary), within three months of the submission of:

- an Annual Review (Condition E9, Schedule 2);
- an Independent Environmental Audit (Condition E10, Schedule 2);
- an incident report (Condition E7, Schedule 2); or
- any modification to the conditions of SSD-7480 (unless the conditions require otherwise).

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

The reviews will be undertaken to ensure the Rehabilitation Strategy is updated on a regular basis and to incorporate potential measures to improve the environmental performance of the VCM. In accordance with Condition E6, Schedule 2 of SSD-7480 that if necessary to either improve the environmental performance of the development or cater for a modification, the strategies, plans and programs required under this consent must be revised and submitted for approval within six weeks of a review to the satisfaction of the Planning Secretary.

The revision status of this Rehabilitation Strategy is indicated on the final page of each copy. The approved Rehabilitation Strategy will be made publicly available on the WHC website, in accordance with Condition E14, Schedule 2 of SSD-7480 and implemented as per approval by the Planning Secretary.

### **7.3 INDEPENDENT ENVIRONMENTAL AUDIT**

In accordance with the relevant terms and sub-conditions within Condition E10, Schedule 2 of the SSD-7480, an Independent Environmental Audit (IEA) of the VCM will be conducted by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Secretary.

The IEA will assess the environmental performance of the VCM and review the adequacy of this Rehabilitation Strategy. If necessary, appropriate measures or actions to improve the environmental performance of the VCM in regards to management of rehabilitated will be recommended.

A copy of the IEA report will be submitted to the Planning Secretary, and any other NSW agency that requests it, together with the response to any recommendations contained in the IEA report, and a timetable proposed for the implementation of the recommendations.

Within 1 year of the commencement of development and every 3 years thereafter, WHC shall commission an IEA of the VCM. The IEA and WHC's response to recommendations in the Audit, will be made publicly available on WHC's website as per Condition E14, Schedule 2 of SSD-7480.

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

## 8 REPORTING PROCEDURES

In accordance with Condition E4(h), Schedule 2 of SSD-7480, WHC has developed a protocol for managing and reporting the following:

- incidents;
- complaints;
- non-compliances with statutory requirements; and
- exceedances of the impact assessment criteria and/or performance criteria.

These protocols are described in the VCM's Environmental Management Strategy (EMS).

In accordance with Condition E14, Schedule 2 of SSD-7480, WHC will provide regular reporting on the environmental performance of the VCM on the WHC website, and address the relevant requirements in Condition E14 (a).

### 8.1 INCIDENT REPORTING

An incident is defined as an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance. A non-compliance is defined as an occurrence, set of circumstances or development that is a breach of the condition of SSD-7480 (refer Section 8.3).

In the event that review of rehabilitation monitoring data indicates an incident has occurred, the incident will be reported in accordance with Condition E7, Schedule 2 of SSD-7480 and relevant conditions of EPL 21283. WHC will immediately notify the Department and any other relevant agencies.

The notification will be provided to the Secretary in writing via [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) and will identify the VCM (including the development application number and name) and set out the location and nature of the incident.

Within seven days of the date of the incident, WHC will provide the Secretary and any other relevant agencies with a report on the incident. The report will include details required within the approval, including:

- describe the date, time and nature of the exceedance/incident;
- identify the cause (or likely cause) of the exceedance/incident;
- describe what action has been taken to date; and
- describe reasonable and feasible options to address the incident and identify the preferred option to address the incident (Section 8.1).

	<b>VICKERY COAL MINE</b>	Document Owner:	VCM
		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

## 8.2 COMPLAINTS

WHC will maintain a Community Complaints Line and online contact via the WHC website ([www.whitehavencoal.com.au](http://www.whitehavencoal.com.au)) for the sole purpose of receiving community complaints, or enquiries. The Community Complaints Line number will be available on the website. The community Complaints Line will be staffed 24 hours a day, seven days a week during construction and operations. WHC will respond to callers on the next business day.

Detailed records of each complaint are kept in WHC's record management systems.

In accordance with Condition E14(ix), Schedule 2 of SSD-7480, a complaints register will be made available on the WHC website during the construction and operational stages of the VCM. The complaints register will include:

- the date and time of the complaint;
- the method by which engagement was made;
- any personal details provided or, if no such details were provided, a note to the effect;
- the nature of the complaint; and
- any actions (if any required) taken by WHC in relation to the complaint.

Investigations into complaints will generally commence within 24 hours of receipt, or as soon as practical. The cause of the complaint will be analysed and actions to attempt to address the complaint taken as soon as reasonably possible. In complex cases where resolution will take more than 48 hours, WHC will commit to updating the community member.

## 8.3 NON-COMPLIANCE WITH STATUTORY REQUIREMENTS

A protocol for managing and reporting non-compliances with statutory requirements has been developed as a component of the VCM's EMS and is described below.

Compliance with all approvals, plans and procedures is the responsibility of all personnel (staff and contractors) employed on or in association with WHC and the VCM.

A VCM representative will undertake required inspections during the construction and initial mining period and initiate directions to address any actions identified, if required, and areas of actual or potential non-compliance.

As described in Section 10.1, WHC will report incidents in accordance with Condition E7, Schedule 2 of SSD-7480 and dependent on the incident and potential environmental harm, in accordance with the protocol for industry notification of pollution incidents under Part 5.7 of the PoEO Act.

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		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
WHC PLN VCM REHABILITATION STRATEGY			

WHC will notify the Secretary and any other relevant agencies within seven days of becoming aware of a non-compliance in accordance with Condition E8, Schedule 2 of SSD-7480. The notification will set out the condition/s of SSD-7480 which the VCM is non-compliant with, why it is non-compliant and what actions have or will be taken to address.

A review of compliance with all conditions in SSD-7480 and all other applicable approvals and licences will be included within each Annual Review (Section 7.1).

Additionally, in accordance with Condition E10, Schedule 2 of SSD-7480, an IEA (Section 7.3) will be conducted by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Secretary to assess whether WHC is complying with the requirements SSD-7480, and any other relevant approval and tenement conditions.

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		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

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		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

## Appendix A Consultation Log

**Table A1 – Consultation Log**

Date	Consultee	Comment
August 2022	DPE	Approved Staging of the Rehabilitation Strategy
October 2022	DPE	Submission for approval
November 2022	DPE	DPE feedback
January 2023	DPE	DPE approves Preliminary Works Rehabilitation Strategy
June 2023	Resources Regulator, DPE Water, NSC, BCD and GSC	Revision incorporating agency feedback

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		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

## Appendix B Risk and Opportunities Register

**Table B1 – Risk and Opportunities Register**

Final Land Use Domain	Rehabilitation Objectives	Risks to Rehabilitation	Management/Mitigation Measures & Opportunities
All Domains	Safe, stable and non-polluting.	No risk to achieving the Rehabilitation Objective identified in this stage of the Rehabilitation Strategy.	Rehabilitation monitoring program (as outlined in the RMP).  Rehabilitation monitoring reports to be prepared annually.
	Fit for intended post-mining land use/s.	No risk to achieving the Rehabilitation Objective identified.	
	Establish the final landform and post-mining land use/s as soon as practicable after cessation of mining operations.	No risk to achieving the Rehabilitation Objective identified.	
	Minimise post-mining environmental impacts.	No risk to achieving the Rehabilitation Objective identified.	
Final Voids	The final void will be geotechnically stable, safe and non-polluting.	No risk to achieving the Rehabilitation Objective identified.	Rehabilitation monitoring program (as outlined in the RMP).  Rehabilitation monitoring reports to be prepared annually.
	The catchment reporting to the final void will be designed and constructed to provide flows that fill the void.		
	The final void lake will provide a permanent water resource with water quality suitable for native fauna and agricultural use.		
	Embankments above the permanent water level will be vegetated with native vegetation consistent with native vegetation rehabilitation areas to contribute to fauna habitat connectivity.		

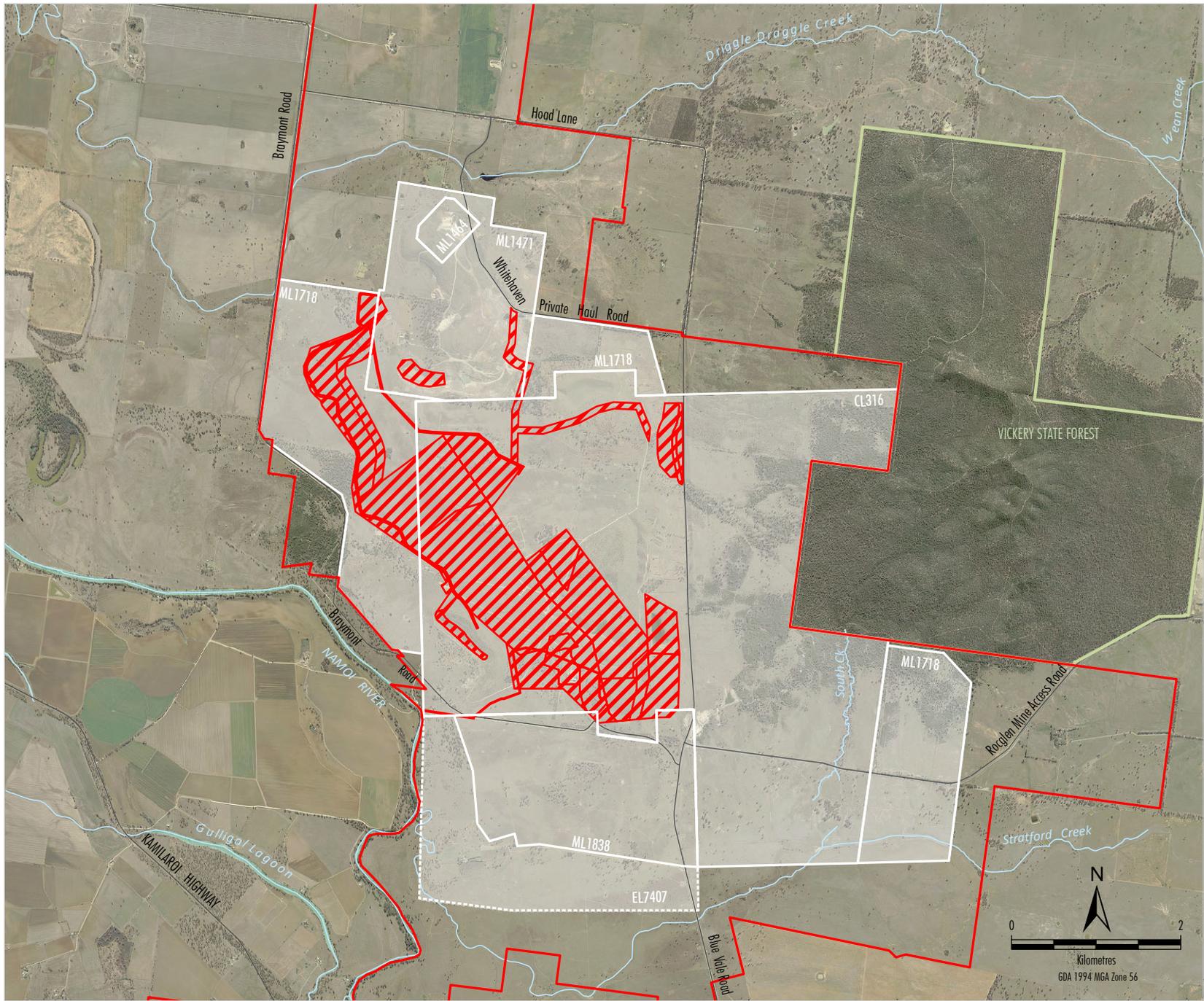
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		Last Revision Date:	July 2023
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**Table B1 (Continued) – Risk and Opportunities Register**

Final Land Use Domain	Rehabilitation Objectives	Risks to Rehabilitation	Management/Mitigation Measures & Opportunities
Agricultural – Grazing	Establish/restore grassland areas to support sustainable agricultural activities.	No risk to achieving the Rehabilitation Objective identified.	Rehabilitation monitoring program (as outlined the RMP).  Rehabilitation monitoring reports to be prepared annually.  Separation of soil material types where possible prior to replacement to ensure natural regeneration.  Reuse of surface materials in rehabilitation consideration to timing/season.
	Use species found in the local area that are suitable for pasture production.	No risk to achieving the Rehabilitation Objective identified.	
	Achieve land and soil capabilities that are equivalent or better than pre-mining.	No risk to achieving the Rehabilitation Objective identified.	
	Local adjacent to surrounding agricultural land, where practicable.	No risk to achieving the Rehabilitation Objective identified.	
Native Ecosystem	At least 132 ha of native vegetation with characteristics analogous to analogue sites will be established on areas disturbed by mining.	No risk to achieving the Rehabilitation Objective identified.	Rehabilitation monitoring program (as outlined in the RMP).  Rehabilitation monitoring reports to be prepared annually.
	Native vegetation areas will contribute to maintaining the genetic diversity of flora occurring in the locality by utilising locally collected seed and preserving the topsoil seedbank	No risk to achieving the Rehabilitation Objective identified.	
	Native vegetation areas will contribute to habitat resources and linkages with adjacent native vegetation including the Vickery State Forest.	No risk to achieving the Rehabilitation Objective identified.	

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		Issue:	2.1
		Last Revision Date:	July 2023
		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

## Appendix C Mining and Rehabilitation



- LEGEND**
- Coal - Current Title
  - Project Approval Boundary \*
  - Forecast Disturbance

\* Appendix 1 of Development Consent (SSD 7480)

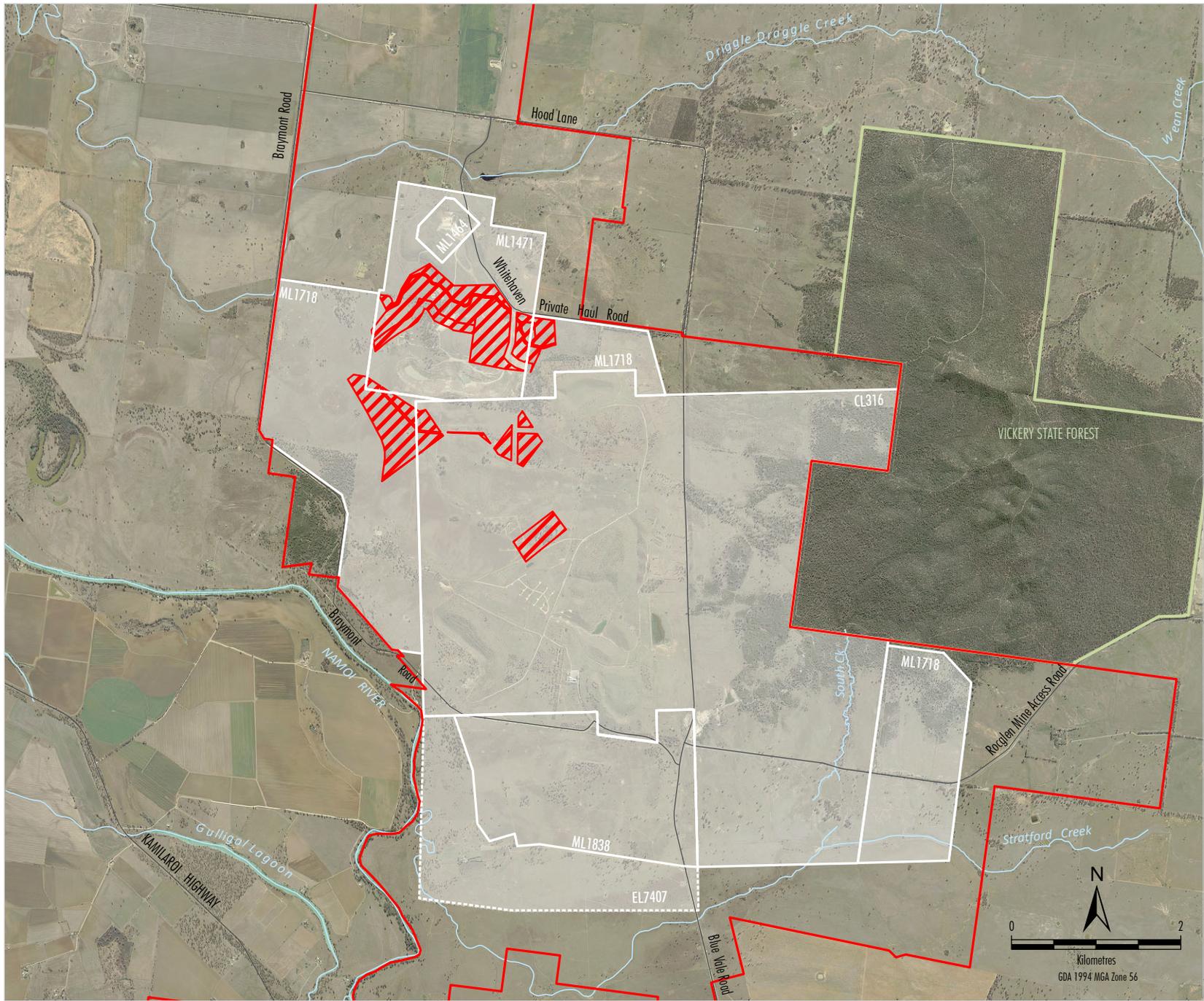
Source: Orthophoto - Department of Land and Property Information, Aerial Photography Flown (July 2011); Department of Industry (2015); Whitehaven (2013)



**VICKERY EXTENSION PROJECT**

Mining and Rehabilitation –  
Year 1 (July 2023 - June 2024)





- LEGEND**
- Coal - Current Title
  - Project Approval Boundary \*
  - Forecast Disturbance

\* Appendix 1 of Development Consent (SSD 7480)

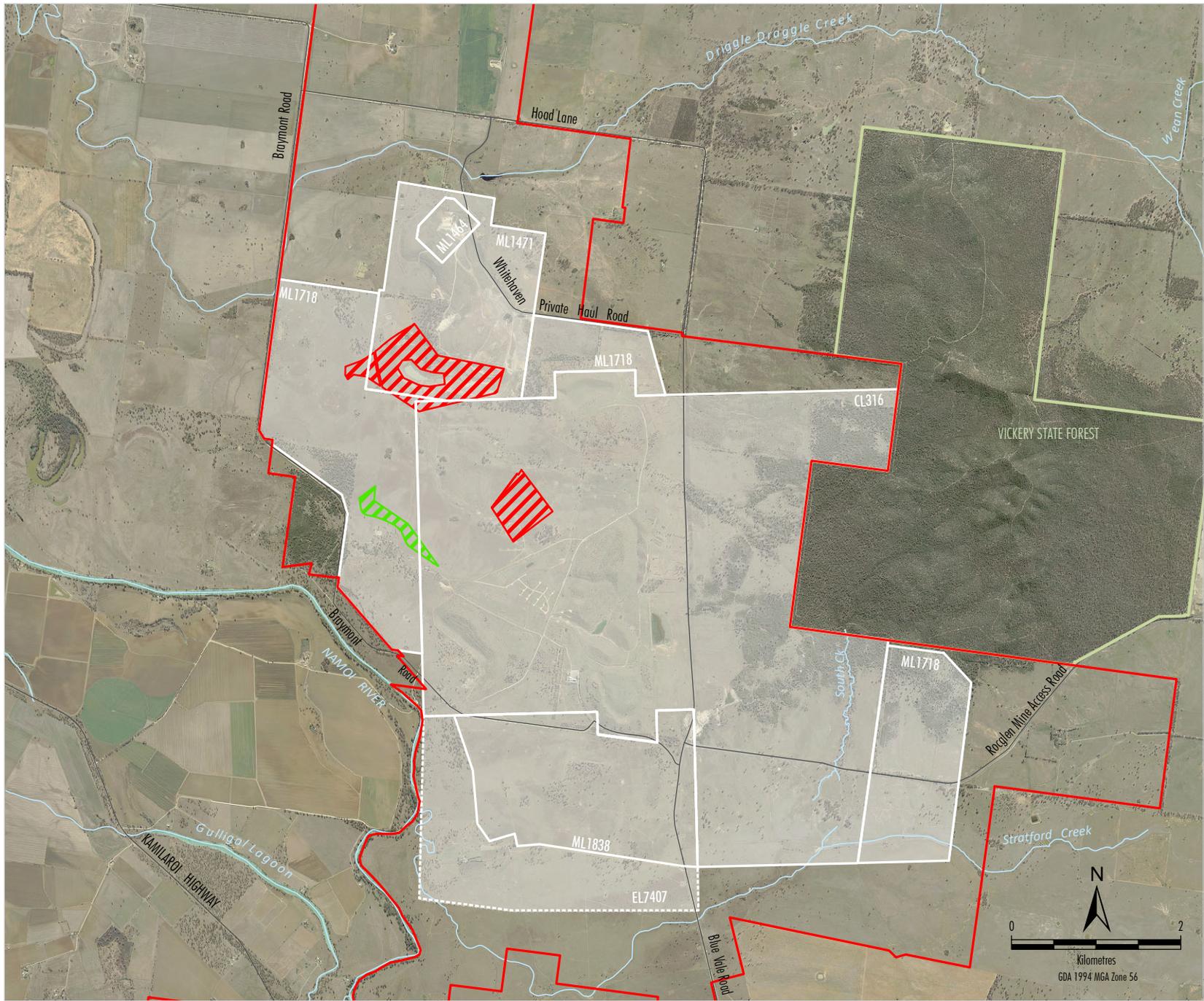
Source: Orthophoto - Department of Land and Property Information, Aerial Photography Flown (July 2011); Department of Industry (2015); Whitehaven (2013)



**VICKERY EXTENSION PROJECT**

Mining and Rehabilitation –  
Year 2 (July 2024 - June 2025)

**Plan 2B**



- LEGEND**
-  Coal - Current Title
  -  Project Approval Boundary \*
  -  Forecast Disturbance
  -  Forecast Land Prepared for Rehabilitation

\* Appendix 1 of Development Consent (SSD 7480)

Source: Orthophoto - Department of Land and Property Information, Aerial Photography Flown (July 2011); Department of Industry (2015); Whitehaven (2013)

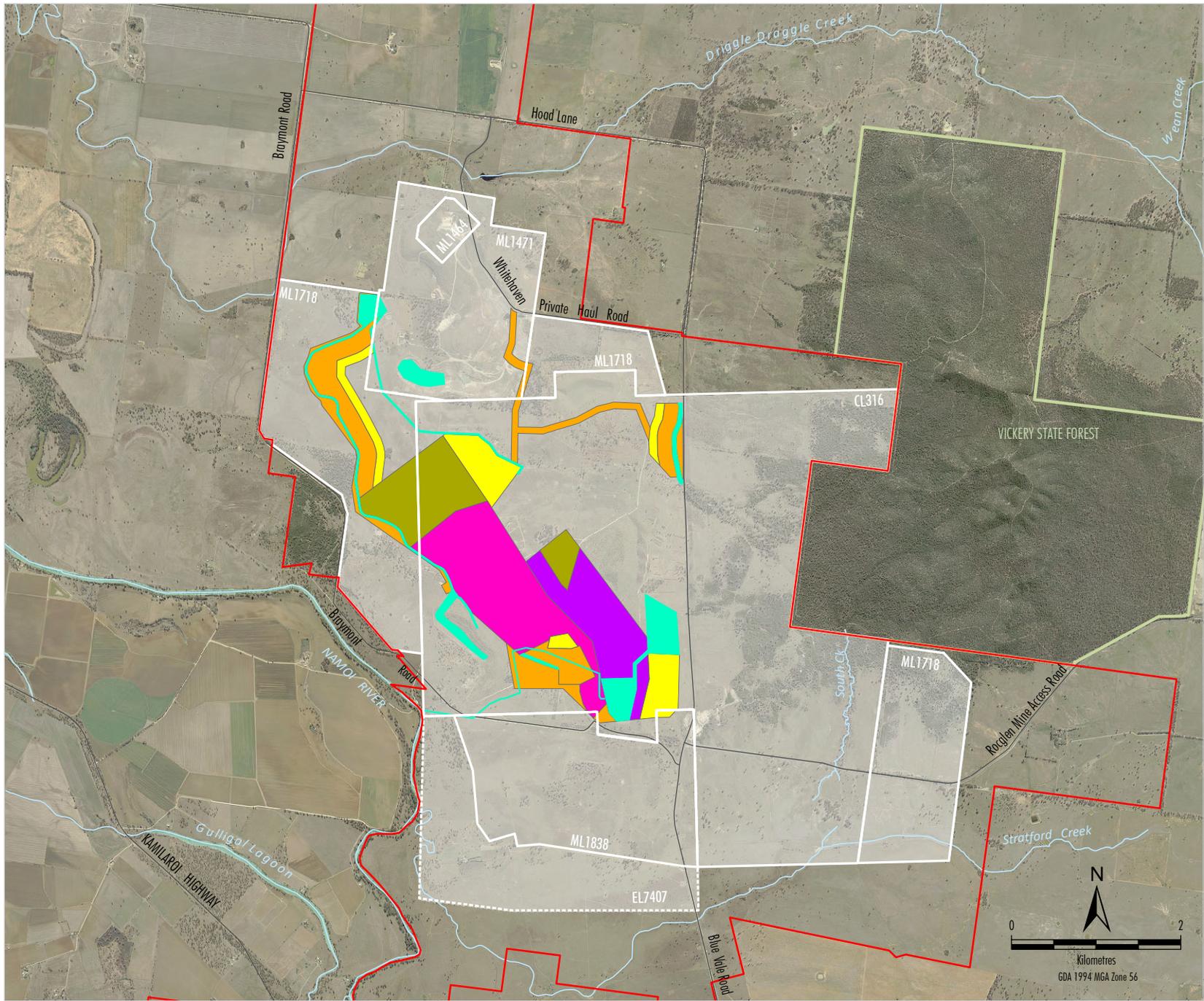


VICKERY EXTENSION PROJECT

Mining and Rehabilitation –  
Year 3 (July 2025 - June 2026)

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		Date Printed:	July 2023
<b>WHC PLN VCM REHABILITATION STRATEGY</b>			

## Appendix D Life of Mine Schedule



- LEGEND**
- Project Approval Boundary \*
  - Coal - Current Title
  - Mining Domain Types
  - Active Mining Area (Open Cut Void)
  - Infrastructure Area
  - Overburden Emplacement Area
  - Other (Topsoil Stockpile Area)
  - Other (Topsoil Stripped)
  - Water Management Area

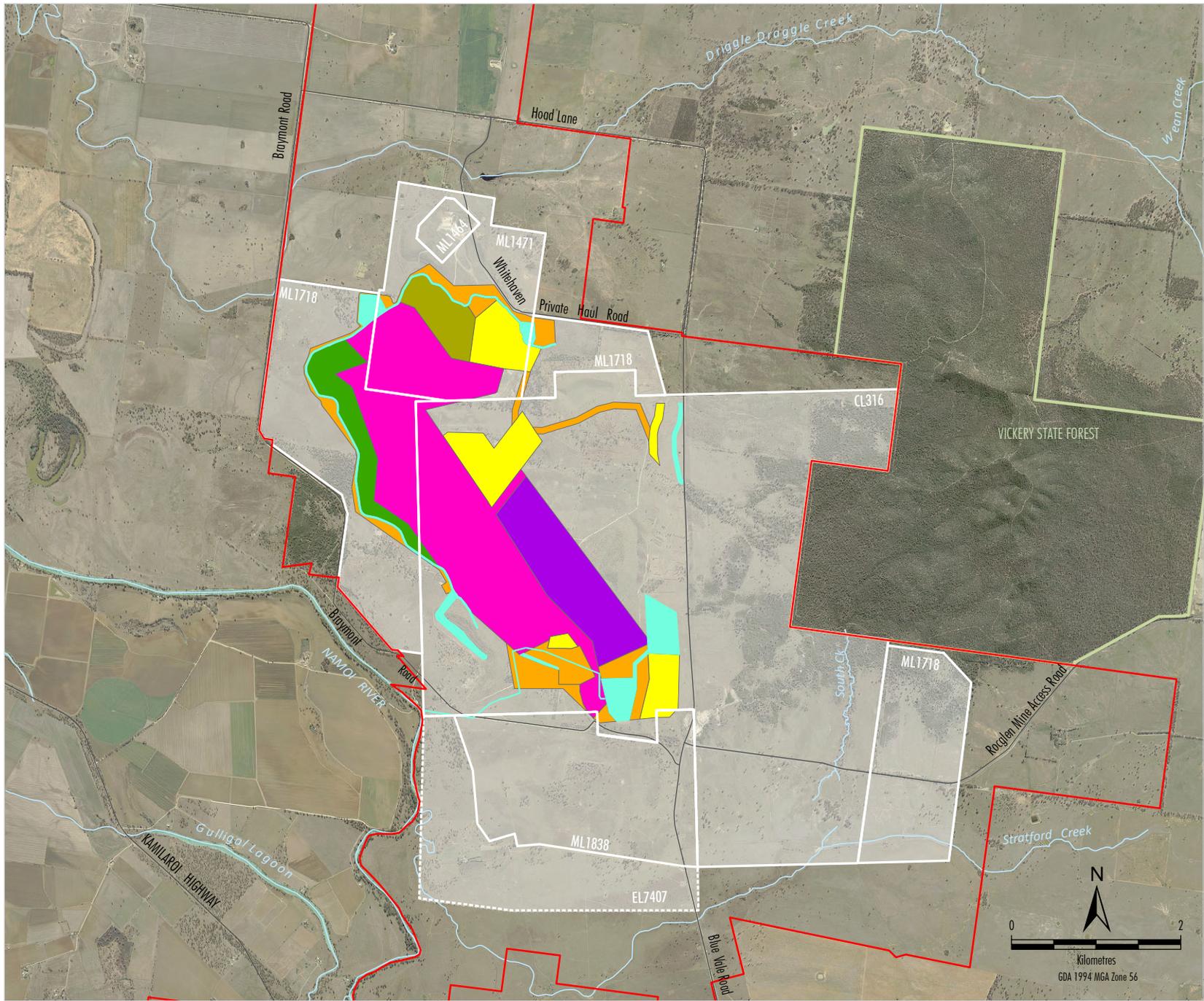
\* Appendix 1 of Development Consent (SSD 7480)

Source: Orthophoto - Department of Land and Property Information, Aerial Photography Flown (July 2011); Department of Industry (2015); Whitehaven (2013)



**VICKERY EXTENSION PROJECT**

Life of Mine Rehabilitation Schedule – RMP Commencement



- LEGEND**
- Project Approval Boundary \*
  - Coal - Current Title
  - Mining Domain Types
  - Active Mining Area
  - Infrastructure Area
  - Overburden Emplacement Area
  - Rehabilitation
  - Other (Topsoil Stockpile Area)
  - Other (Topsoil Stripped Area)
  - Water Management Area

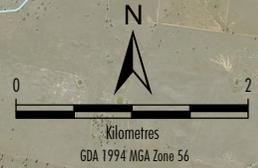
\* Appendix 1 of Development Consent (SSD 7480)

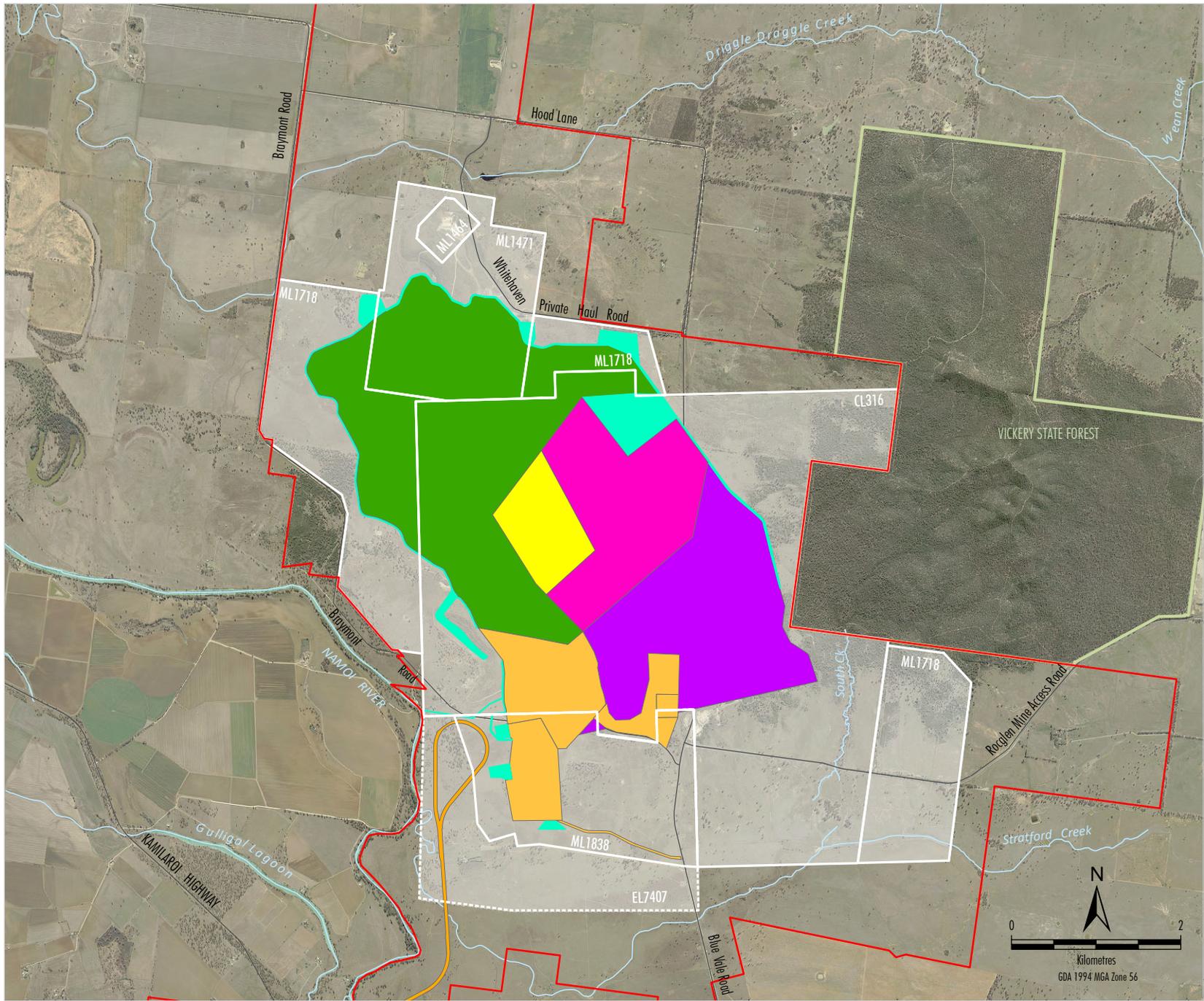
Source: Orthophoto - Department of Land and Property Information, Aerial Photography Flown (July 2011); Department of Industry (2015); Whitehaven (2013)



**VICKERY EXTENSION PROJECT**

Life of Mine Rehabilitation Schedule –  
Year 5 (2028)





- LEGEND**
- Project Approval Boundary \*
  - Coal - Current Title
  - Mining Domain Types
  - Active Mining Area (Open Cut Void)
  - Infrastructure Area
  - Overburden Emplacement
  - Rehabilitation
  - Other (Topsoil Stockpile Area)
  - Water Management Area

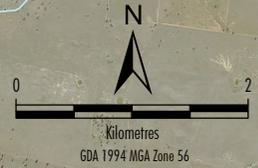
\* Appendix 1 of Development Consent (SSD 7480)

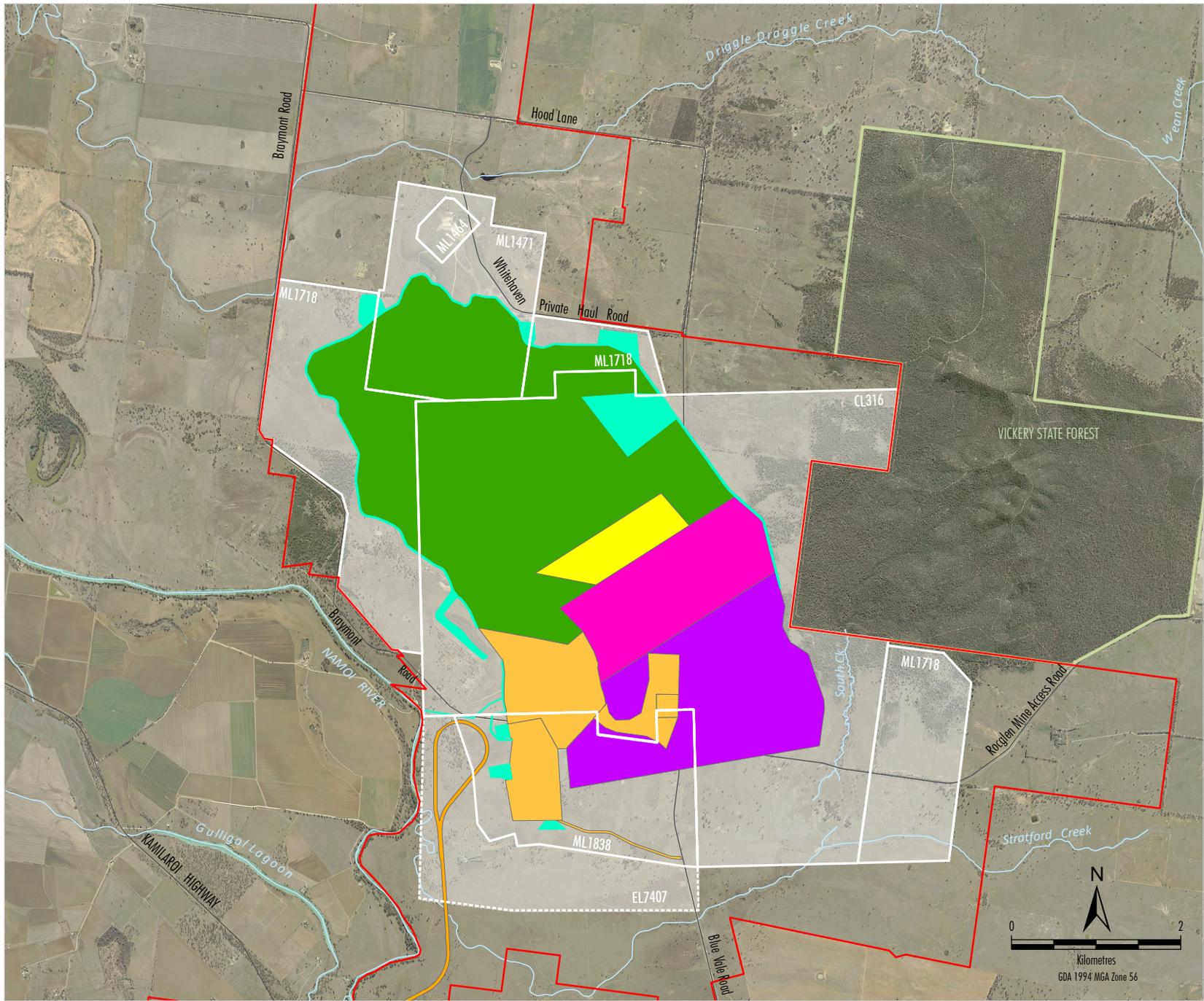
Source: Orthophoto - Department of Land and Property Information, Aerial Photography Flown (July 2011); Department of Industry (2015); Whitehaven (2013)



**VICKERY EXTENSION PROJECT**

Life of Mine Rehabilitation Schedule –  
Year 10 (2033)





- LEGEND**
- Project Approval Boundary \*
  - Coal - Current Title
  - Mining Domain Types
  - Active Mining Area (Open Cut Void)
  - Infrastructure Area
  - Overburden Emplacement Area
  - Rehabilitation
  - Other (Topsoil Stockpile Area)
  - Water Management Area

\* Appendix 1 of Development Consent (SSD 7480)

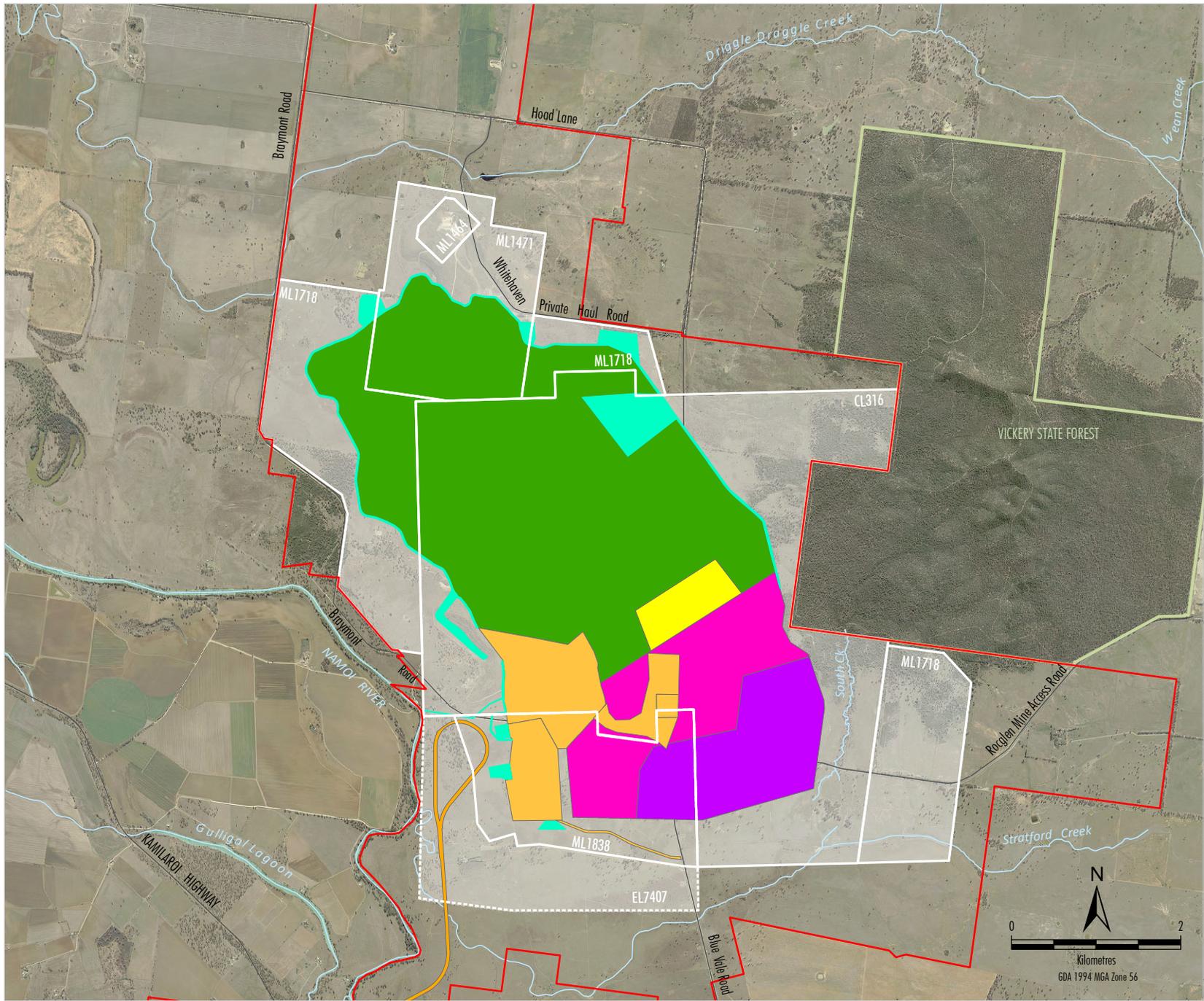
Source: Orthophoto - Department of Land and Property Information, Aerial Photography Flown (July 2011); Department of Industry (2015); Whitehaven (2013)



**VICKERY EXTENSION PROJECT**

Life of Mine Rehabilitation Schedule –  
Year 15 (2038)





- LEGEND**
- Project Approval Boundary \*
  - Coal - Current Title
  - Mining Domain Types
  - Active Mining Area (Open Cut Void)
  - Infrastructure Area
  - Overburden Emplacement
  - Rehabilitation
  - Other (Topsoil Stockpile Area)
  - Water Management

\* Appendix 1 of Development Consent (SSD 7480)

Source: Orthophoto - Department of Land and Property Information, Aerial Photography Flown (July 2011); Department of Industry (2015); Whitehaven (2013)



**VICKERY EXTENSION PROJECT**

Life of Mine Rehabilitation Schedule –  
Year 20 (2043)

