Cockatoo Coal Limited

KEPCO Bylong Australia Pty Ltd

Bylong Coal Project

Gateway Certificate Application Supporting Document

January 2014

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BYLONG COAL PROJECT

GATEWAY CERTIFICATE APPLICATION

SUPPORTING DOCUMENT

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10 January 2014

for:

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EXECUTIVE SUMMARY

Background

The Bylong Coal Project is situated within Authorisations 287 and 342 which are located approximately 55 kilometres north-east of Mudgee within the Mid-Western Regional Council Local Government Area. The Bylong Coal Project involves the construction and operation of a coal mine and associated facilities to recover approximately 121 Million tonnes of Run of Mine coal utilising open cut and underground mining methods for a period of up to 29 years (including construction).

This document has been prepared in accordance with Part 4AA "Mining and Petroleum Development on Strategic Agricultural Land" of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* and the '*Fact Sheet Strategic Regional Land Use Policy Guideline for Gateway Applicants*' to support the Gateway Certificate Application for assessment under the NSW Government's recently introduced Gateway Process for mining on Strategic Agricultural Land.

The Project Boundary is located partly on cleared and pasture improved agricultural land within the lower valley areas and native woodland and forest within the more elevated Bylong State Forest and other portions of Crown Land. The land within the Project Boundary is currently being utilised for fodder cropping and grazing activities on the lower slopes and cattle grazing on the steeper slopes.

Project Mine Plan

During the exploration phase and in light of the changing planning approvals process, an iterative mine planning process was undertaken in consultation with relevant Government agencies. The mine planning process carefully considered numerous options for the mine plan and associated infrastructure to accommodate site specific constraints along with potential impacts on Strategic Agricultural Land.

The preferred mine plan and infrastructure design for the Bylong Coal Project was selected as the most balanced approach in terms of minimising impacts to Strategic Agricultural Land whilst maintaining economic viability. The overall mining method is governed by the stratigraphy of the coal resource, topography and other site specific constraints.

Open cut mining has been selected in areas where underground mining is not considered to be safe or practical. These initial short-term open cut mining activities are essential for the economic viability of the Bylong Coal Project. These open cut mining areas also create a suitable environmentally sound solution for the management of fine and coarse rejects materials generated during the longer term underground mining operations.

Biophysical Strategic Agricultural Land

The NSW Government's regional mapping illustrated approximately 1,610 hectares of Biophysical Strategic Agricultural Land within the Project Boundary, as of September 2012. Extensive soils and land capability testing has been completed across the Project Boundary in order to validate and refine this regional mapping according to the '*Interim Protocol for Site Verification of Biophysical Strategic Agricultural Land'* (OAS&FS and OEH, 2013). This process determined that 2,366 hectares of the land within the Project Boundary represents Biophysical Strategic Agricultural Land.

The Bylong Coal Project will directly impact approximately 215 hectares (or 9.1%) of Biophysical Strategic Agricultural Land within the Project Boundary. This represents a 0.1% impact to the total Biophysical Strategic Agricultural Land mapped within the *Upper Hunter Strategic Regional Land Use Plan* (DP&I, 2012).

Approximately 194 hectares (or 8.2%) of Biophysical Strategic Agricultural Land within the Project Boundary (currently utilised for cattle grazing) is located in an area that will be permanently disturbed by the Bylong Coal Project. During open cut operations, KEPCO Bylong Australia Pty Ltd will progressively reinstate the Biophysical Strategic Agricultural Land in an area external to the Project Disturbance Boundary to compensate for these residual impacts. This will ensure that the agricultural productivity of the Biophysical Strategic Agricultural Land is not significantly affected.

Approximately 21 hectares (or 0.9%) of Biophysical Strategic Agricultural Land within the Project Boundary (currently utilised for cattle grazing and some cropping) will only be temporarily impacted until cessation of open cut mining. Following this, the land will be returned to Biophysical Strategic Agricultural Land.

The Bylong Coal Project will also indirectly and temporarily impact approximately 152 hectares (or 6.4%) of Biophysical Strategic Agricultural Land within the Project Boundary (currently utilised for cattle grazing) as a result of potential subsidence effects associated with underground mining operations. Remediation of minor surface impacts associated with subsidence will be undertaken to maintain the agricultural productivity, soil and landscape characteristics of this land in the medium to long term.

All land held by KEPCO Bylong Australia Pty Ltd within the Project Boundary and immediate vicinity not required for mining or mining related activities has been and will continue to be managed and utilised for agricultural purposes.

Preliminary groundwater modelling has indicated that approximately 23 bores within the alluvium and one bore within the Permian hard rock aquifer are likely to affect groundwater levels greater than the minimal impact considerations under the Aquifer Interference Policy. All of these bores are located on land in which KEPCO Bylong Australia Pty Ltd has recently reached an agreement with the landholders for acquisition. Accordingly, the impacts will be on bores that are located on land held by the applicant.

KEPCO Bylong Australia Pty Ltd currently has sufficient water allocations under the *Hunter Unregulated and Alluvial Water Sources Water Sharing Plan 2009* for the predicted water takes from the alluvial aquifer. An appropriate water licence under the *Water Act 1912* will be sought to account for the predicted take of water from the Permian hard rock aquifer. There are no predicted impacts on any adjoining private landholders.

Whilst the requirements under Clause 17H(4)(a) of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* do apply, KEPCO Bylong Australia Pty Ltd has formulated a balanced mining and infrastructure design to ensure minimal impacts to Biophysical Strategic Agricultural Land.

Critical Industry Cluster (Equine)

There are no thoroughbred breeding enterprises within the Project Boundary.

Site specific assessment in accordance with the *Draft Guideline for Site Verification of Critical Industry Clusters'* (DP&I, 2012b) confirmed that all but one individual equine enterprise within or in the locality (2 km radius) of the Project Boundary does not meet the criteria to be classified as Equine Critical Industry Cluster.

Historically, the region has been utilised for equine related activities. However, the dominant land use for these properties is now beef cattle grazing with limited equine related activities. It has been concluded that the land within the Project Boundary does not represent part of the Equine Critical Industry Cluster.

As such, any requirements under Clause 17H(4)(b) of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* should not apply to the Bylong Coal Project.

Conclusion

The balanced mine plan and associated infrastructure design, along with the comprehensive studies presented in this Supporting Document, clearly demonstrate that all relevant Gateway Certificate considerations have been thoroughly assessed.

In consideration of the short-term duration of impacts, proposed avoidance, mitigation and rehabilitation measures as described in this Supporting Document, it is available for the Gateway Panel to form an opinion under Clause 17H(5) of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* that the Project will not significantly reduce the agricultural productivity of Strategic Agricultural Land within the Upper Hunter Region.

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for

KEPCO Bylong Australia Pty Ltd

1 INTRODUCTION

1.1 BACKGROUND

In December 2010, KEPCO Bylong Australia Pty Ltd (KEPCO) acquired Authorisation (A) 287 and A342 from Anglo Coal (Bylong) Pty Limited. Cockatoo Coal Limited (Cockatoo Coal) was appointed by KEPCO, as manager to explore the feasibility of developing a coal mine within the authorisations, subsequently named the Bylong Coal Project (the Project).

The Project is located wholly within A287 and A342 which are located within the Mid-Western Regional Council (MWRC) Local Government Area (LGA). The closest regional centre is Mudgee, located approximately 55 km south-west of the Project. The small settlement of Bylong Village is located within the central portion of the Project Boundary. The Project is approximately 230 km by rail from the Port of Newcastle. **Figure 1** illustrates the locality of the Project within New South Wales (NSW). **Figure 2** shows the location of the Project in relation to the neighbouring regional town centres, mining tenements, major transport routes and reserves.

Since KEPCO's acquisition of A287 and A342, Cockatoo Coal has completed a comprehensive exploration and environmental monitoring program focused on defining the extent of the coal resource, assessing all key Project alternatives, and determining the potential environmental constraints. This exploration and monitoring program has resulted in the development of a mine plan for the Project, which will facilitate the extraction of approximately 121 Million tonnes (Mt) of Run of Mine (ROM) coal via open cut and underground mining methods for a period of up to 29 years (including construction).

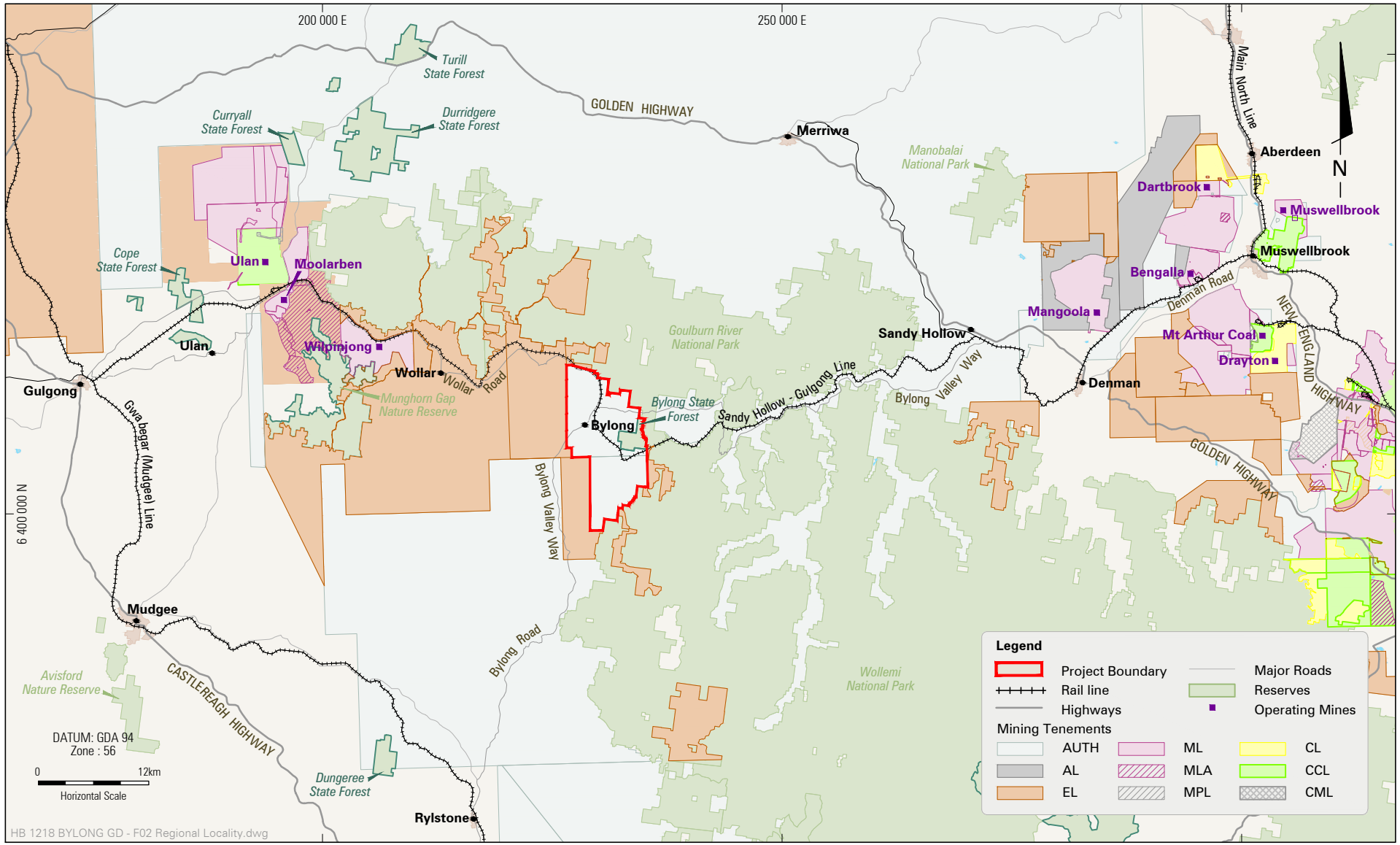
The open cut mining areas proposed to be developed in the first eight years of the Project (following construction) are located in areas where the coal resource is more suitable for recovery via open cut mining methods. These initial open cut mining operations are essential to the viability of the Project both economically and operationally (by providing a storage location for the longer term storage of coal processing waste materials resulting from the more extensive underground mining operations).

KEPCO will seek State Significant Development Consent under Division 4.1 of Part 4 of the *Environmental Planning & Assessment Act 1979* (EP&A Act) for the development and operation of the Project, which shall be supported by an Environmental Impact Statement (EIS). The Project Application Boundary (Project Boundary) is shown on **Figure 2**.

BYLONG COAL PROJECT

Locality Plan

FIGURE 1



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Regional Locality

FIGURE 2

This Gateway Certificate Application and Supporting Document (this document) has been prepared by Hansen Bailey Environmental Consultants (Hansen Bailey) on behalf of Cockatoo Coal, as the managers of the Project for KEPCO. This document supports KEPCO's Gateway Certificate Application for assessment under the NSW Government's recently introduced Gateway Process for mining on Strategic Agricultural Land (SAL).

1.2 PROJECT OVERVIEW

The Project mine life is anticipated to be approximately 29 years, comprising up to a two year construction period and a 27 year operational period, with underground mining operations commencing in Year 7. Various rehabilitation and decommissioning activities will be undertaken during both the course of, and following the 29 years of the Project.

The Project is shown on **Figure 3** and generally comprises:

- The initial development of two open cut mining areas with associated haul roads and Overburden Emplacement Areas (OEAs), utilising a mining fleet of excavators and trucks and supporting ancillary equipment;
- The two open cut mining areas will be developed and operated 24 hours a day, 7 days a week over an approximate 8 year period and will ultimately provide for the storage of coal processing waste products from the longer term underground mining activities;
- Construction and operation of an underground coal mine operating 24 hours a day, 7 days a week for a 23 year period, commencing in around year 7 of the Project;
- A combined extraction rate of approximately 6 Million tonnes per annum (Mtpa) ROM coal;
- Underground mining operations utilising longwall mining techniques with primary access provided via drifts constructed adjacent to the rail loop and Coal Handling and Preparation Plant (CHPP);
- The construction and operation of a CHPP with a designed throughput of approximately 6 Mtpa of ROM coal;
- The construction and operation of facilities to support underground mining operations including (at least) personnel access to the underground mining area, ventilation facilities, workshop, offices and employee amenities, water and gas management facilities;
- A workforce of up to approximately 1,000 during construction and 550 full-time equivalent employees during the operation of the Project at full production;
- The dewatering of fine reject materials through belt press filters within the CHPP and the co-disposal of dewatered fine and coarse reject materials within OEAs and final open cut voids (avoiding the need for a fine reject materials dam);
- The construction and operation of a rail loop and associated rail load out facility and connection to the Sandy Hollow-Gulgong Railway Line to facilitate the transport of product coal;
- The upgrade of Upper Bylong Road and the construction and operation of a Mine Access Road to provide access to the site facilities;

- Relocation of sections of some existing public roads to enable alternate access routes for private landholders surrounding the Project;
- The construction and operation of administration, workshop and other mining related facilities;
- The construction and operation of surface and groundwater management and water reticulation infrastructure including diversion drains, dams (clean, dirty and raw water), pipelines, pumping stations and associated infrastructure for access to water from the neighbouring groundwater aquifers;
- The installation of communications and electricity reticulation infrastructure;
- Construction and operation of an Accommodation Facility and associated access road from the Bylong Valley Way; and
- Infilling of mining voids, progressive rehabilitation of disturbed areas, decommissioning of Project infrastructure and rehabilitation of the land at the completion of mining operations.

1.3 PROPONENT

In accordance with clause 17F(4) of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (Mining SEPP) (as amended 4 November 2013), the following information is provided.

1.3.1 Applicant Name

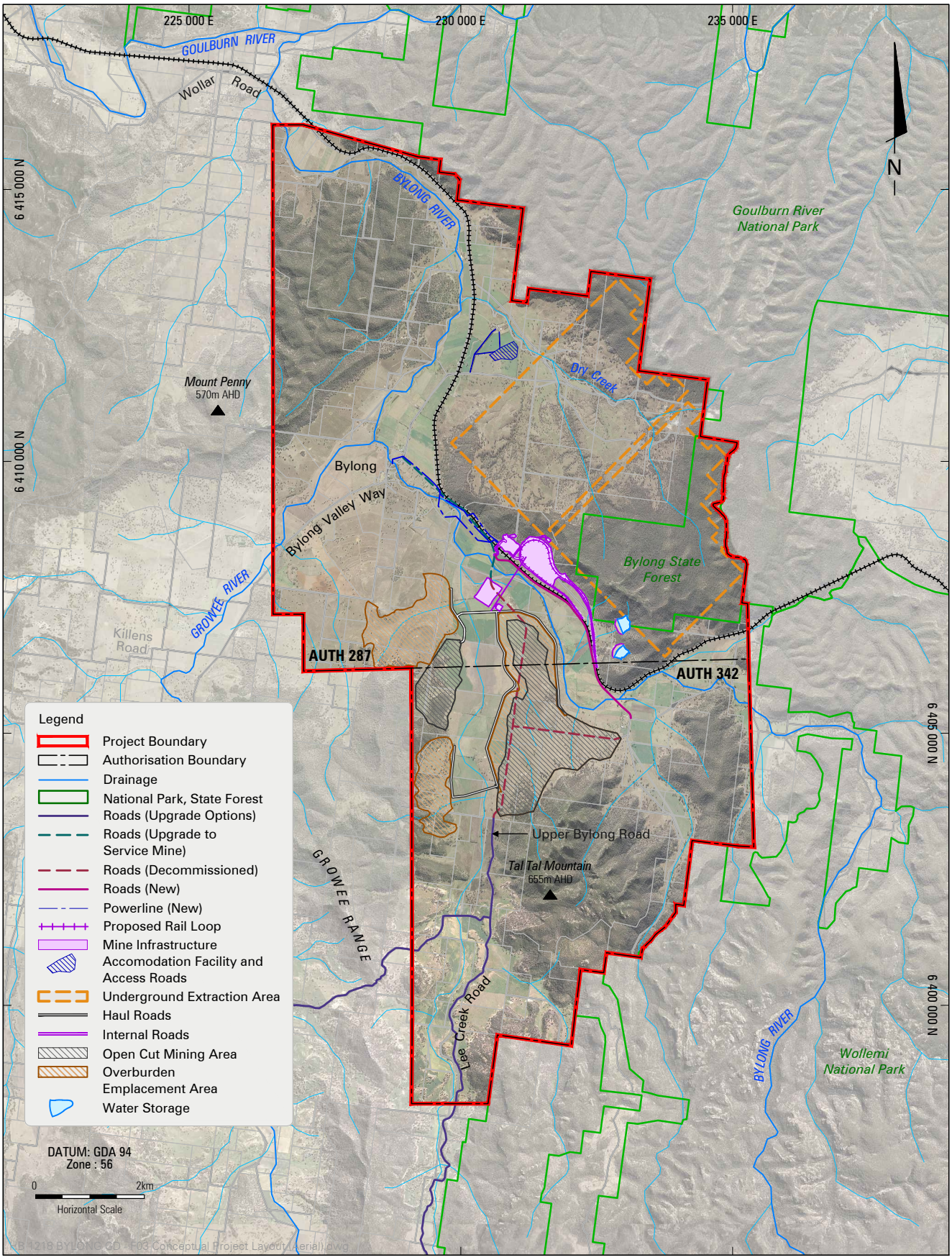
The applicant is KEPCO Bylong Australia Pty Ltd, hereinafter referred to as KEPCO.

1.3.2 Applicant Address

Suite 1301, 141 Walker Street
NORTH SYDNEY NSW 2060
Phone: 02 8904 9508
www.kepco.co.kr/eng/
www.bylongproject.com.au

1.3.3 Subject Land

The address and particulars of title within the Project Boundary (i.e. the area to which this Application applies) are listed in **Appendix A**.



BYLONG COAL PROJECT

Conceptual Project Layout

FIGURE 3

1.4 DOCUMENT PURPOSE

This document has been prepared in accordance with Part 4AA "Mining and Petroleum Development on Strategic Agricultural Land" of the Mining SEPP, which provides the relevant legislative framework for the Government's new Gateway Process. To enable the Gateway Panel to form an opinion in accordance with Clause 17H(5), this document provides sufficient detail in relation to the duration of any impact and proposed avoidance, mitigation, offset and rehabilitation measures in respect of such impact.

This document provides detailed information to allow the Gateway Panel to assess whether the project will *"significantly"* impact SAL in accordance with the criteria listed under Clause 17H(4) of the Mining SEPP as reproduced in **Table 1** and **Table 2**. These tables indicate where each criteria has been addressed to enable the Gateway Panel members to determine this in consideration of the sensitivity of the impacted environment or features and the magnitude of the predicted impacts.

This document has also been prepared under the guidance of and in accordance with the '*Fact Sheet Strategic Regional Land Use Policy Guideline for Gateway Applicants'* (DP&I, 2013) (Guideline for Gateway Applicants).

This document has addressed the potential impacts on SAL associated with the Project Disturbance Boundary and has not forecast any potential impacts to SAL for any environmental buffer land or ecological offsets that will be determined during the preparation of the EIS. A further investigation into any impacts on SAL within these additional lands will be included within the EIS.

Table 3, **Table 4** and **Table 5** summarise the requirements of the Guideline for Gateway Applicants and indicates where each is addressed in this document.

Table 1
Gateway BSAL Criteria

Requirement		Where Addressed
(i)	Any impacts on the land through surface area disturbance and subsidence.	**Section 5.1**
(ii)	Any impacts on soil fertility, effective rooting depth or soil drainage.	**Section 5.2**
(iii)	Increases in land surface micro-relief, soil salinity, rock outcrop, slope and surface rockiness or significant changes to soil pH.	**Section 5.3**
(iv)	Any impacts on highly productive groundwater (within the meaning of the Aquifer Interference Policy).	**Section 5.4**
(v)	Any fragmentation of agricultural land uses.	**Section 5.5**
(vi)	Any reduction in the area of biophysical strategic agricultural land.	**Section 5.6**

Table 2
Gateway CIC Criteria

Requirement	Where Addressed
(i) Any impacts on the land through surface area disturbance and subsidence.	**Section 6.1**
(ii) Reduced access to, or impacts on, water resources and agricultural resources.	**Section 6.2**
(iii) Reduced access to support services and infrastructure.	**Section 6.3**
(iv) Reduced access to transport routes.	**Section 6.4**
(v) The loss of scenic and landscape values.	**Section 6.5**

Table 3
Guideline for Gateway Applicants – Supporting Document

Requirement	Where Addressed
APPLICATION FORM	
• Evidence of Landowner Notification.	**Appendix B**
• Gateway applications are lodged via the Gateway Panel's website. Applicants must complete all mandatory fields in the online form and attach a detailed supporting document (see next heading). The applicant must also provide evidence of landowner notification if the applicant is not the landowner.	**This document**
SUPPORTING DOCUMENT	
• The supporting document describes the proposal's impact in terms of the relevant Gateway criteria (listed below) and the mitigation measures to address these impacts. It is important that the supporting document focuses on the relevant Gateway criteria and no other issues that will be assessed at the development application stage (such as flora and fauna) that do not relate directly to agricultural productivity.	Gateway Criteria addressed as per **Table 1** and **Table 2**. Mitigation measures addressed in **Section 7**.
• The document should briefly explain why the site was chosen for the proposal and briefly discuss any alternatives considered.	**Section 2.7**
• The supporting documentation must address the construction and the operational phase of the development (including, if relevant, demolition and decommissioning/rehabilitation). It should present relevant technical investigations undertaken for each component of the project, along with the findings, conclusions and recommendations of those investigations. The detailed technical studies should be included.	**Section 3** to **Section 7** present background, methodology, results and recommendations of technical studies. Refer to **Appendices** for relevant technical studies.
• The supporting documentation should be clear and concise, objective and written in plain English to enable the general public to understand it. It should avoid unnecessary repetition and jargon.	This document achieves this requirement.

Table 4
Guideline for Gateway Applicants – BSAL

Requirement	Where Addressed
Clause 17H Relevant Criteria	
SURFACE AREA DISTURBANCE AND SUBSIDENCE	
• Applicants need to provide maps and text that identify and describe the areal extent of the surface area disturbance and subsidence. This should include description and mapping of the classes of land and soil capability and soil fertility that will be affected. An estimation of the likelihood of full rehabilitation of this area post mining activity and an overview of the processes used to achieve the rehabilitation should be provided.	**Sections 5** and **7.3**
SOIL FERTILITY, EFFECTIVE ROOTING DEPTH, SOIL DRAINAGE, AND SURFACE MICRO-RELIEF, SOIL SALINITY, ROCK OUTCROP, SLOPE AND SURFACE ROCKINESS OR SOIL PH	
• The applicant should:	
o Refer to the *'Interim Protocol for Site Verification and Mapping of Biophysical Strategic Agricultural Land'* which describes relevant criteria and their analysis and identifies key references.	**Section 4.3**
o Refer to the '*Agricultural Impact Statement: Technical Notes'* which are technical guidelines supporting agricultural impact assessments.	**Section 4.3**
o Provide information in tabular form that demonstrates the pre-development and post development land and soil capability and soil fertility classes.	**Table 13**
HIGHLY PRODUCTIVE GROUNDWATER	
• The applicant should provide:	
o Estimates of all quantities of water that are likely to be taken from any water source on an annual basis during and following cessation of the activity.	**Section 5.4**
o A strategy for obtaining appropriate water licence/s for maximum predicted annual take.	**Sections 3.4** and **5.4**
o Establishment of baseline groundwater conditions including groundwater depth, quality and flow based on sampling of all existing bores in the area, any existing monitoring bores and any new monitoring bores that may be required under an authorisation issued under the *Mining Act 1992* or the *Petroleum (Onshore) Act 1991.*	**Section 5.4**
o A strategy for complying with any water access rules applying to relevant categories of water access licences, as specified in relevant water sharing plans.	**Section 3.4**
o Estimates of potential water level, quality and pressure drawdown impacts on nearby water users who are exercising their right to take water under a basic landholder right.	**Section 5.4**
o Estimates of potential water level, quality and pressure drawdown impacts on nearby licensed water users in connected groundwater and surface water sources.	**Section 5.4**

Requirement	Where Addressed
o Estimates of potential water level, quality and pressure drawdown impacts on groundwater dependent ecosystems.	**Section 5.4**
o Estimates of potential for increased saline and contaminated water inflows to aquifers and highly connected river systems.	**Section 5.4**
o Estimates of the potential to cause or enhance hydraulic connection between aquifers.	**Section 5.4**
o Estimates of the potential for river bank instability, or high wall instability or failure to occur.	**Section 5.4**
o Outline of the method for disposing of water inflows to a mine or extracted water (in the case of coal seam gas activities).	**N/A**
• This information should be based on a simple model that uses best available baseline data collected at an appropriate frequency and scale and that is determined to be fit-for-purpose to the satisfaction of the Minister for Primary Industries.	**Section 5.4**
• Proponents should also provide a strategy for moving to modelling using more detailed site specific data that will be used at the development application stage to better assess potential impacts.	**Section 4.4**
• The information detailed above will be used to assess the project against the criteria specified in 'Table 1 – Minimal Impact Considerations for Aquifer Interference Activities' in the Aquifer Interference Policy.	**Section 4.4**
FRAGMENTATION OF AGRICULTURAL LAND USES	
• The applicant must consider the existing and typical agricultural land use of the site and in the locality and indicate whether the proposal will result in significant fragmentation of agricultural land use based on a consideration of the following:	
o The decrease in production and efficiency of agriculture in the area.	**Section 5.5**
o Reduced access to critical farm and rural infrastructure such as water resources, transport routes and stock reserves.	**Section 5.5**
o Changes in the form of agricultural land use (e.g. from non-irrigated to irrigated).	**Section 5.5**
o Changes in land use from agriculture to other land use.	**Section 5.5**
o Any agricultural land acquired as a buffer or offset for the mine.	**Section 1.4**
REDUCTION IN THE AREA OF BSAL	
• The application should quantify any likely reduction in the pre-development and post development area of Biophysical SAL. In particular, this will include a consideration of the loss of Biophysical SAL through factors including surface area disturbance and fragmentation, land use changes, acquisition and impacts on soil fertility and land capability.	**Section 5.6**

Requirement	Where Addressed
• Under the Mining SEPP, applicants for proposals on land that is not mapped as Biophysical SAL may elect not to undertake Biophysical SAL site verification and proceed directly to lodging a Gateway application. In these circumstances, the amount and extent of BSAL that is potentially affected by the proposal must still be clearly documented in the Gateway application in accordance with the Interim Protocol for Site Verification and Mapping of Biophysical Strategic Agricultural Land.	**Section 4.3**

Table 5
Guideline for Gateway Applicants – Equine CIC

Requirement	Where Addressed
Clause 17H Relevant Criteria	
SURFACE AREA DISTURBANCE AND SUBSIDENCE	
• Applicants need to provide maps and text that identify and describe the areal extent of the surface area disturbance and subsidence.	**Sections 5** and **7.3**
• The focus of this assessment should be on areas that are physically used for CIC activities, such as the loss of grapevines or subsidence within thoroughbred breeding paddocks.	**Section 4.5**
• The assessment should also describe and map the classes of land and soil capability and soil fertility that will be affected.	**Section 5**
• An estimation of the likelihood of full rehabilitation of this area post mining activity and an overview of the processes used to achieve the rehabilitation should be provided.	**Section 7.3**
WATER RESOURCES AND AGRICULTURAL RESOURCES	
• The applicant should identify all water and agricultural resources with direct utility to the CIC. The impact of the proposal on these resources should be quantified as well as the significance of any temporary or permanent disruption of access to these resources by the CIC.	**Section 6.1**
SUPPORT SERVICES AND INFRASTRUCTURE	
• Any properties acquired (including both operational land and buffer areas) or directly impacted in another way as a result of the project must be identified. The application must consider whether these property acquisitions or other impacts of the proposal are likely to isolate any CIC property from, or lead to the closure of, a CIC support service such as an equine veterinarian or winery.	**Section 6.3**
• The impacts of any temporary or permanent disruption of access from CIC properties to support services and infrastructure must also be assessed.	**Section 6.3**
TRANSPORT ROUTES	
• The applicant should identify:	
o Road and rail traffic volumes and routes and vehicle sizes associated with the project.	**Section 2**

Requirement	Where Addressed
o Existing CIC-related road and rail traffic movements that occur on the same routes as proposed in the project.	**Section 6.4**
o The potential impacts on CIC-related road and rail transport routes.	**Section 6.4**
• The impact of any temporary or permanent road or rail closures on CIC-related transport routes must also be assessed.	**Section 6.4**
SCENIC AND LANDSCAPE VALUES	
• Views of the project site from CIC properties or RMS-signposted Tourist Routes must be assessed in the application. The application should use visual aids such as photomontages to explain the potential impacts. Any mitigation measures such as visual bunds or plantings should also be shown in images.	**Section 6.5**

1.5 STAKEHOLDER CONSULTATION

KEPCO is strongly committed to undertaking a best-practice and ongoing stakeholder engagement activities with communities in which they operate. Key community, regulatory and industry stakeholders relevant to the Project have been identified by the Project team to achieve these goals and will constantly endeavour to build strong and effective relationships, consistent with their policies and values.

Since acquiring the authorisations, KEPCO has been undertaking active stakeholder engagement for the Project. This includes the appointment of a dedicated Community Liaison Officer in the Bylong area available to local residents and community groups.

KEPCO has also been actively engaging with the immediate and wider community through the operation of a website dedicated to the Project. Regular newsletters and fact sheets have been provided to local residents and community groups detailing information on the Project. Members of the local community, including students from the Upper Bylong School were invited to an open day on the Project site in each of 2011, 2012 and 2013 which included talks by senior staff members.

As mentioned in **Section 4.2.4**, KEPCO made a notification within the local and regional newspapers in December 2013 about its intention to lodge the Gateway Application in the near future. Letters were also sent to each landholder within the Project Boundary with follow up face to face briefings with each of these landholders.

Community Information Sessions were held at the Bylong Community Hall on 18 and 19 December 2013 to brief interested local community members on the Project and to provide an update on the planning approval's process. These Community Information Sessions were well attended with 22 landholders visiting over the two days to ask questions in relation to the Project.

KEPCO has also been in ongoing discussions with the MWRC since it acquired the Project, including most recent discussions over particular details of the Project and the intention to lodge this Gateway Application.

KEPCO has also held discussions with personnel within DP&I, NOW, and OAS&FS and the Executive Officer of the Gateway Panel and over the proposed content and structure of this document.

1.6 DOCUMENT STRUCTURE

This document is structured as follows:

- **Section 2** provides a description of the conceptual Project;
- **Section 3** describes the existing environmental setting;
- **Section 4** describes the approach to the assessment in accordance with the Gateway Process and Mining SEPP;
- **Section 5** assesses the impact of the Project on Biophysical Strategic Agricultural Land (BSAL) in accordance with the requirements of the Mining SEPP;
- **Section 6** assesses the impact of the Project on the Equine Critical Industry Cluster (CIC) in accordance with the requirements of the Mining SEPP;
- **Section 7** describes the preliminary measures that will be implemented to mitigate and manage the Project's impacts on SAL;
- **Section 8** provides a position on the Project having regard to the assessment of impacts on SAL;
- **Section 9** outlines the study team for this document;
- **Section 10** lists abbreviations used in this document; and
- **Section 11** lists all relevant references used in this document.

Appendix A provides particulars of the land to which the Project applies. **Appendix B** provides the public notice of intention to lodge an application for a Gateway Certificate under Clause 17F of the Mining SEPP. **Appendix C** to **J** provides complete copies of the technical impact assessments that support this document.

2 CONCEPTUAL PROJECT DESCRIPTION

This section provides a conceptual description of the Project and a discussion of the key alternatives considered during the development of the Project. It further provides a justification for the mine plan described below, particularly in relation to consideration of SAL.

2.1 INTRODUCTION

KEPCO is intending to seek the grant of a Development Consent for State Significant Development under Division 4.1 of Part 4 of the EP&A Act for the construction and operation of an open cut and underground coal mining operation for a period of approximately 29 years (with each to operate for approximately 8 and 23 years, respectively). The Project will facilitate the recovery of approximately 121 Mt of ROM coal from the Illawarra Coal Measures at a rate of approximately 6 Mtpa ROM coal.

Product coal will be transported from site via rail to the Port of Newcastle for export or, directly to the domestic market for electricity generation (under suitable market conditions).

Figure 3 illustrates the conceptual Project layout, indicatively showing the key components within the Project Boundary as described within the following sections.

2.2 MINING OPERATIONS

Following extensive exploration and mine planning, a coal resource has been identified as economically feasible for recovery utilising both open cut and underground mining techniques. The Project proposes the extraction of a portion of the known coal reserves within the Project Boundary for a period of approximately 27 years following a construction period of up to 2 years. Decommissioning of Project infrastructure and the final rehabilitation activities may extend beyond the 29 years of the Project.

Additional coal resources are known to exist within A287 and A342 beyond the proposed 27 years of mining operations within the Project Boundary. KEPCO has no plans to recover these coal resources as part of the current planning approval application. However depending upon the outcome of ongoing exploration activities, market conditions and global demand for coal in the future, KEPCO may seek approvals to recover these coal resources at a later date.

Due to topographic relief, local geology and current land uses, the majority of the area is suited to underground mining methods. However, there are some areas where the coal is too shallow to enable safe, economic and effective underground mining operations. Two initial areas are therefore proposed for the efficient recovery and utilisation of coal resources utilising open cut mining methods as part of the Project. The early recovery of coal from the two open cut mining areas within the initial eight years of mining operations is pivotal in securing the economic viability of the Project, whilst also ensuring a suitable facility for the emplacement of fine and coarse reject materials throughout the life of the underground mining operations in the most environmentally acceptable manner.

2.2.1 Open Cut Mining

Figure 4 to **Figure 7** illustrates the progression of the eight years of open cut mining operations within the two open cut mining areas, including: Eastern Open Cut Mining Area (Eastern Open Cut) and Western Open Cut Mining Area (Western Open Cut). The coal resource within these areas occurs at relatively shallow depths (i.e. between 20 m to 90 m depth of cover), which makes this resource suitable for recovery using open cut mining methods only. The nature of one of the target coal seams and its stratigraphic position, coupled with its relatively shallow depths of cover which are not acceptable for underground mining methods warrants the use of open cut mining methods. It also enables the coal to be recovered efficiently which ensures that the significant economic investment in the Project is able to be justified by KEPCO.

The sterilisation of significant open cut coal resources has been committed to by KEPCO to ensure impacts on SAL are minimised (i.e. a reduction from seven mining areas to the two as proposed in the Project description in **Section 2.7.5**).

Prior to surface disturbance commencing, suitable soil materials will be recovered and stored for use in future rehabilitation activities. The proposed open cut activities will be consistent with conventional open cut mining operations, utilising hydraulic excavators matched with suitably sized haul trucks to facilitate the relocation of overburden to uncover the coal.

The geology within the Eastern Open Cut requires the mine development to commence within a box cut in the north-western part of this mining area. Concurrently, mining operations will also be developed within the south-western portion of the Eastern Open Cut. Mining operations will progress with a laid back advancing face that allows the two mining areas to eventually join and progress eastwards as a single mining area with north to south orientated benches.

Overburden from the Eastern Open Cut will initially be placed within the North-Western OEA and South-Western OEA until the mining void is suitably developed to enable progressive backfilling. The southern portion of the Eastern Open Cut will remain as an open void for the storage of coarse and fine reject materials for the longer term underground mining operations. This void will be filled over the life of the Project and will be capped and rehabilitated at the end of the mine life, so that no final void remains.

In parallel to the commencement of mining operations in the Eastern Open Cut, the recovery of ROM coal will also commence within the Western Open Cut with the development of a box cut in the northern end. Mining operations within the Western Open Cut will advance from the north to south using east to west orientated benches. Overburden extracted from this area will initially be placed within the North-Western OEA, until mining has been sufficiently developed to enable the overburden to be used to backfill the mining void. Once the open cut mining activities have advanced and OEAs have been shaped and graded, the soil resources collected prior to mining disturbance will be directly placed onto the shaped OEAs to facilitate rehabilitation.

Coal production for the open cut mining operations will progressively increase to approximately 5 Mtpa of ROM coal by Year 5 of the Project. Open cut mining operations are anticipated to recover approximately 30 Mt of ROM coal over a period of approximately 8 years.

Coal and overburden material from the open cut mining areas will be blasted prior to excavation by excavator and truck fleet. There will be on average over a year, one blast event per day at maximum production (excluding Sundays).

The Project will necessitate two OEAs external to the open cut mining areas, including the:

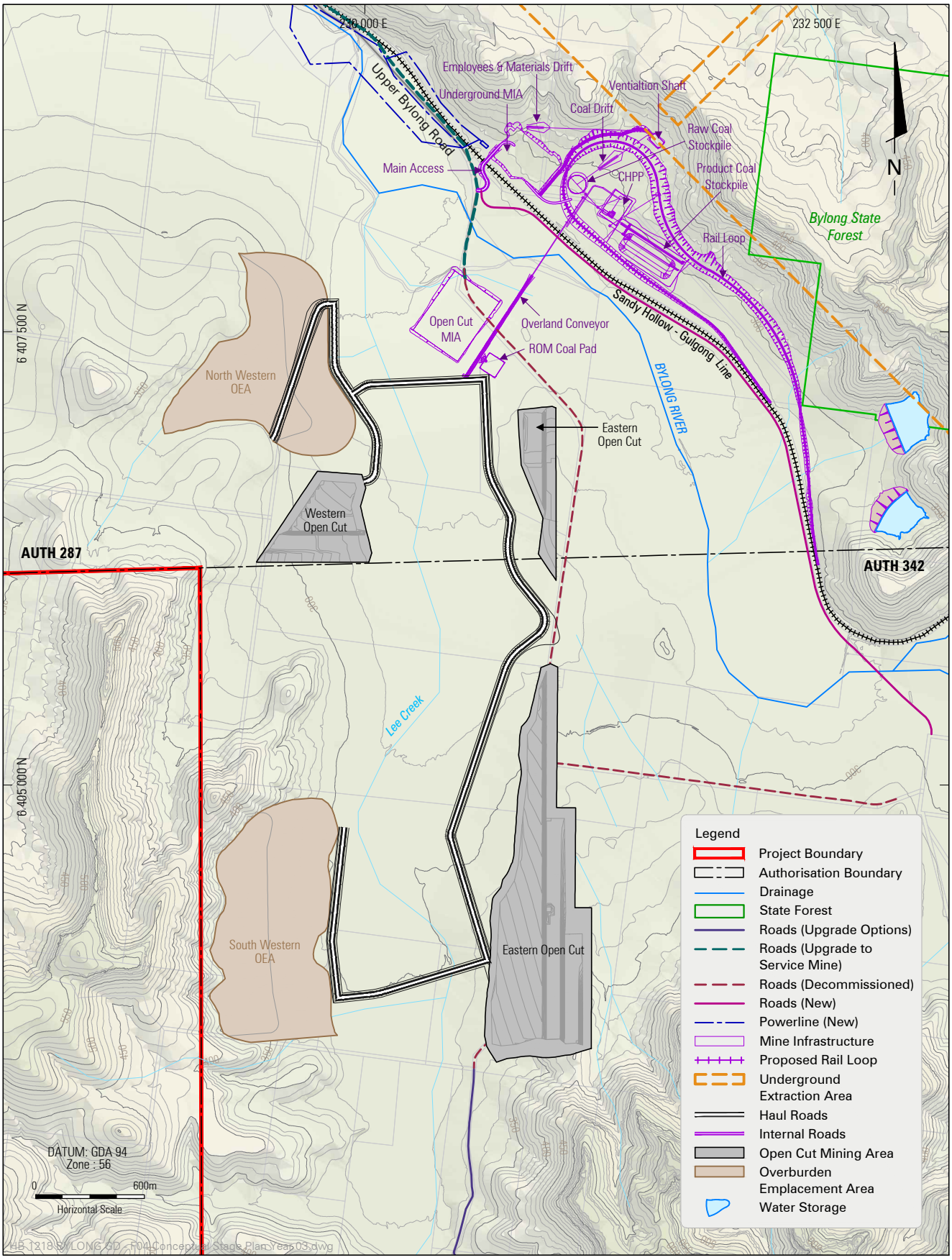
- North-Western OEA located to the north-west of the Western Open Cut; and
- South-Western OEA located to the west of the Eastern Open Cut and south of the Western Open Cut.

Each of these OEAs will be developed in conjunction with the initial years of mining operations. Once the mining areas have been fully developed and the coal resource has been recovered, overburden will be used to backfill the previously mined areas. The South-Eastern OEA will be progressively developed within the Eastern Open Cut. The North-Eastern OEA will be developed within the Western Open Cut.

The conceptual design of the OEAs has been developed to minimise disturbance to sensitive surface features, whilst blending into the natural topography and mitigating visual impacts to neighbouring receivers where possible. Rehabilitation of these OEAs will occur progressively throughout the early years of mining operations (see **Figure 4** to **Figure 7**).

At the completion of open cut mining operations in approximately Year 10, sufficient space will be retained within the southern-most portion of the Eastern Open Cut for the storage of coarse and fine reject materials generated from the processing of ROM coal from the underground operations. Once this void has been filled with coarse and fine reject materials, overburden material from the South-Western OEA and/or the OEAs within the Eastern Open Cut will be used to cap and facilitate rehabilitation to achieve the final landform as conceptually illustrated in **Figure 8**. The remaining areas of the South-Western OEA will be shaped and rehabilitated to complement the surrounding natural topography.

The indicative equipment fleet for the open cut mining operations at peak production for the Project will include a fleet of approximately five excavators, 30 haul trucks, 10 dozers and/or graders, and various other associated water carts and ancillary equipment.



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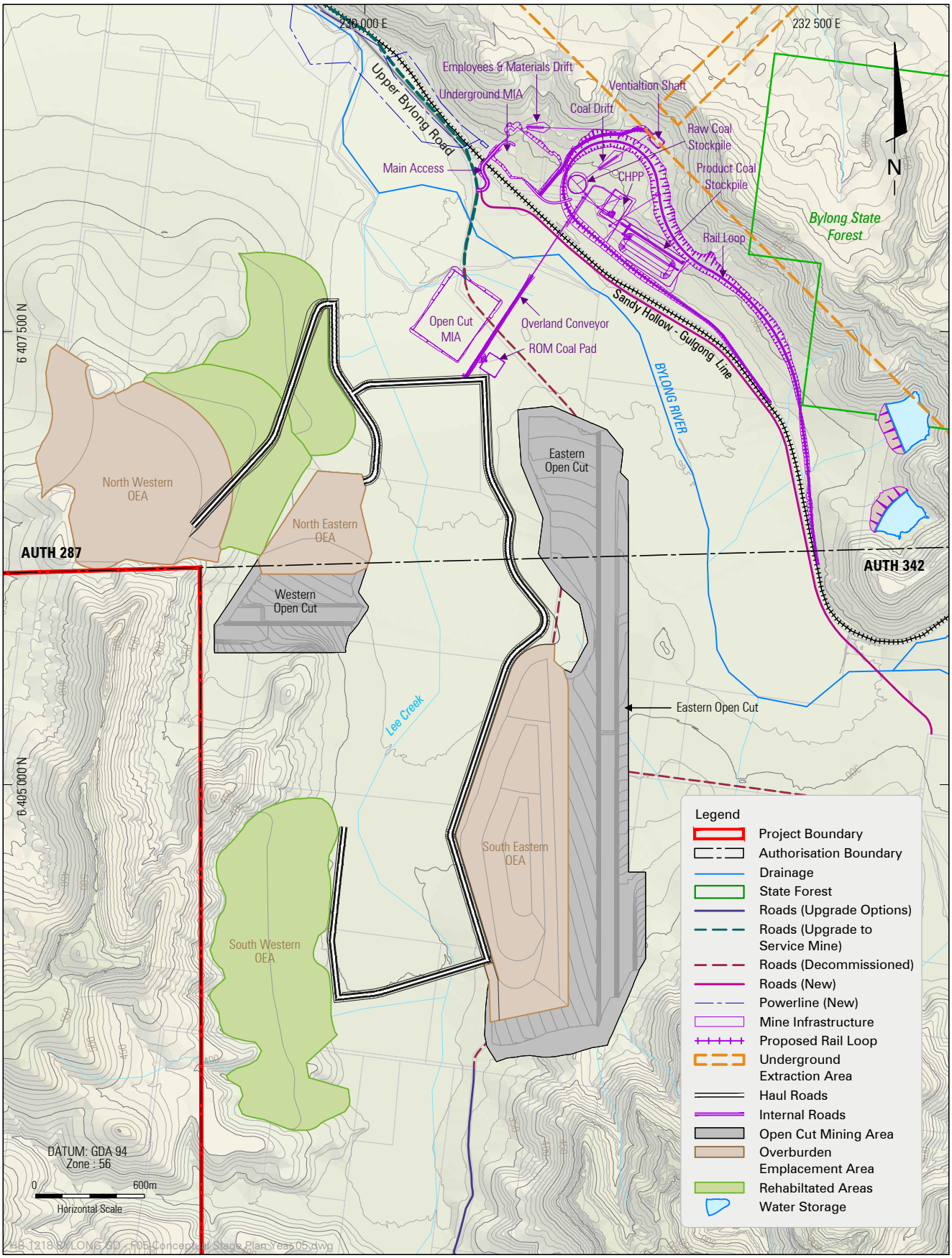
Conceptual Stage Mine Plan - Year 3

FIGURE 4



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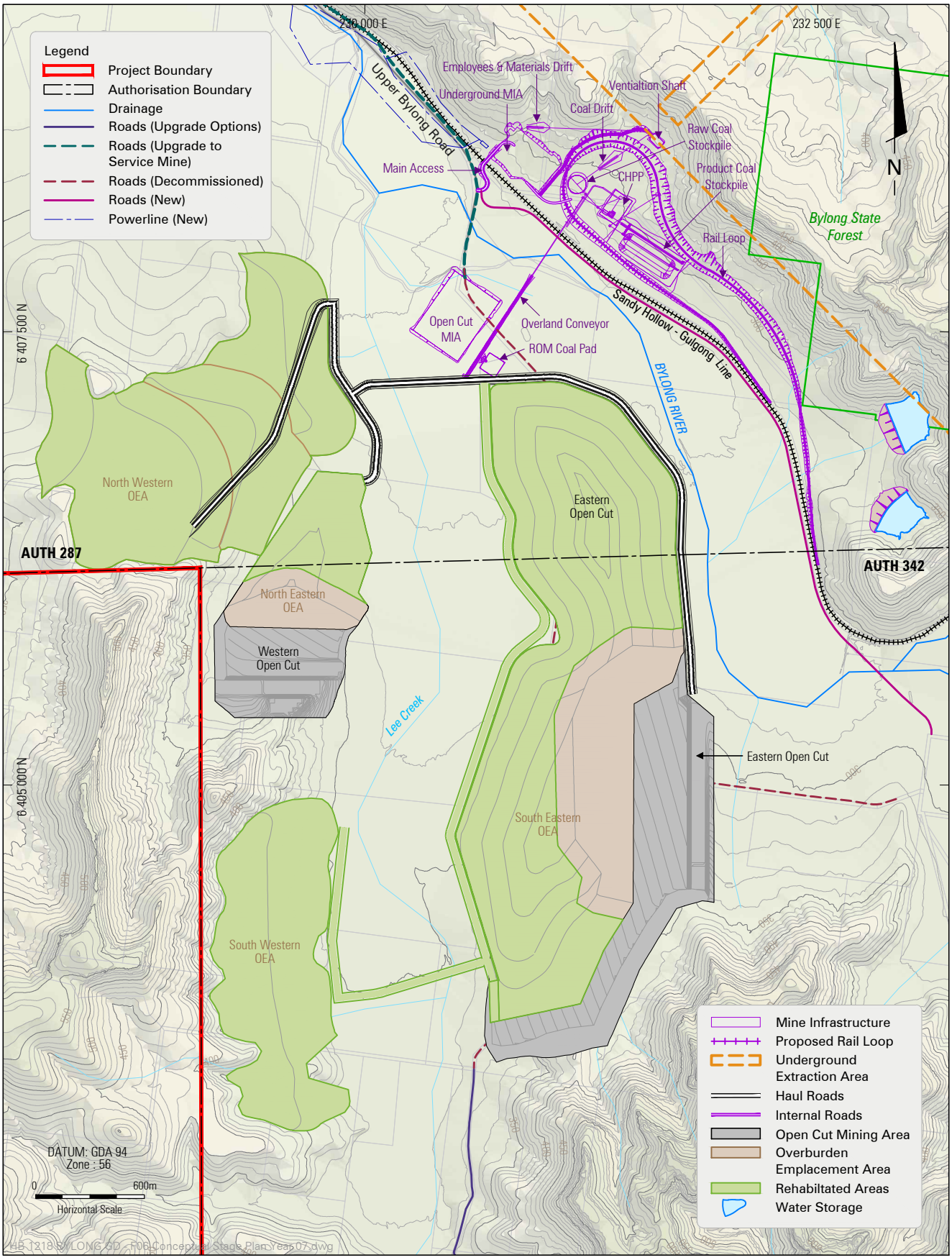
Conceptual Stage Mine Plan - Year 5

FIGURE 5



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Conceptual Stage Mine Plan - Year 7

FIGURE 6