APPENDIX O

VISUAL ASSESSMENT

WILPINJONG EXTENSION PROJECT
VISUAL ASSESSMENT

PREPARED BY
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AND
RESOURCE STRATEGIES PTY LTD

NOVEMBER 2015
Project No. WIL-12-12
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1 INTRODUCTION

The Wilpinjong Coal Mine is an existing open cut coal mining operation situated in the Western Coalfield approximately 40 kilometres (km) north-east of Mudgee, within the Mid-Western Regional Local Government Area, in central New South Wales (NSW) (Figure 1).

Wilpinjong Coal Pty Limited (WCPL), a wholly owned subsidiary of Peabody Energy Australia Pty Limited (Peabody Energy), is the owner and operator of the Wilpinjong Coal Mine.

WCPL is seeking development consent to extend the Wilpinjong Coal Mine, including both physical extensions to the mine footprint to gain access to additional run-of-mine (ROM) coal reserves, and an extension to the approved life of the mine. The proposal is herein referred to as the Wilpinjong Extension Project (the Project).

An indicative Project general arrangement, showing the open cut extension areas and key infrastructure relocations is provided on Figure 2.

This Visual Assessment has been prepared to assist with addressing the following components of the Secretary's Environmental Assessment Requirements for the Project:

> *In particular the EIS must include:*
>
> *…*
>
> - ***Visual** – including an assessment of the likely visual impacts of the development on private landowners in the vicinity of the development, key vantage points in the public domain, paying particular attention to the creation of any new landforms (bunds, etc.), and minimising the lighting impacts of the development;*
>
> *…*

The following components are included as part of this Visual Assessment:

- Characterisation of the existing landscape and visual setting (Section 2).
- Review of previous visual assessments undertaken for the Wilpinjong Coal Mine and existing visual mitigation measures (Section 3).
- Description of the Project components that could have potential visual impacts (Section 4).
- Assessment of potential impacts (Section 5).
- Proposed visual impact mitigation and management measures (Section 6).

WIL-12-12_WEP_EIS_Visual_203B

LEGEND

- Mining Lease Boundary
- Exploration Licence Boundary
- Authorisation Boundary
- Local Government Boundary
- NSW State Forest
- National Park, Nature Reserve or State Conservation Area
- Mining Operation

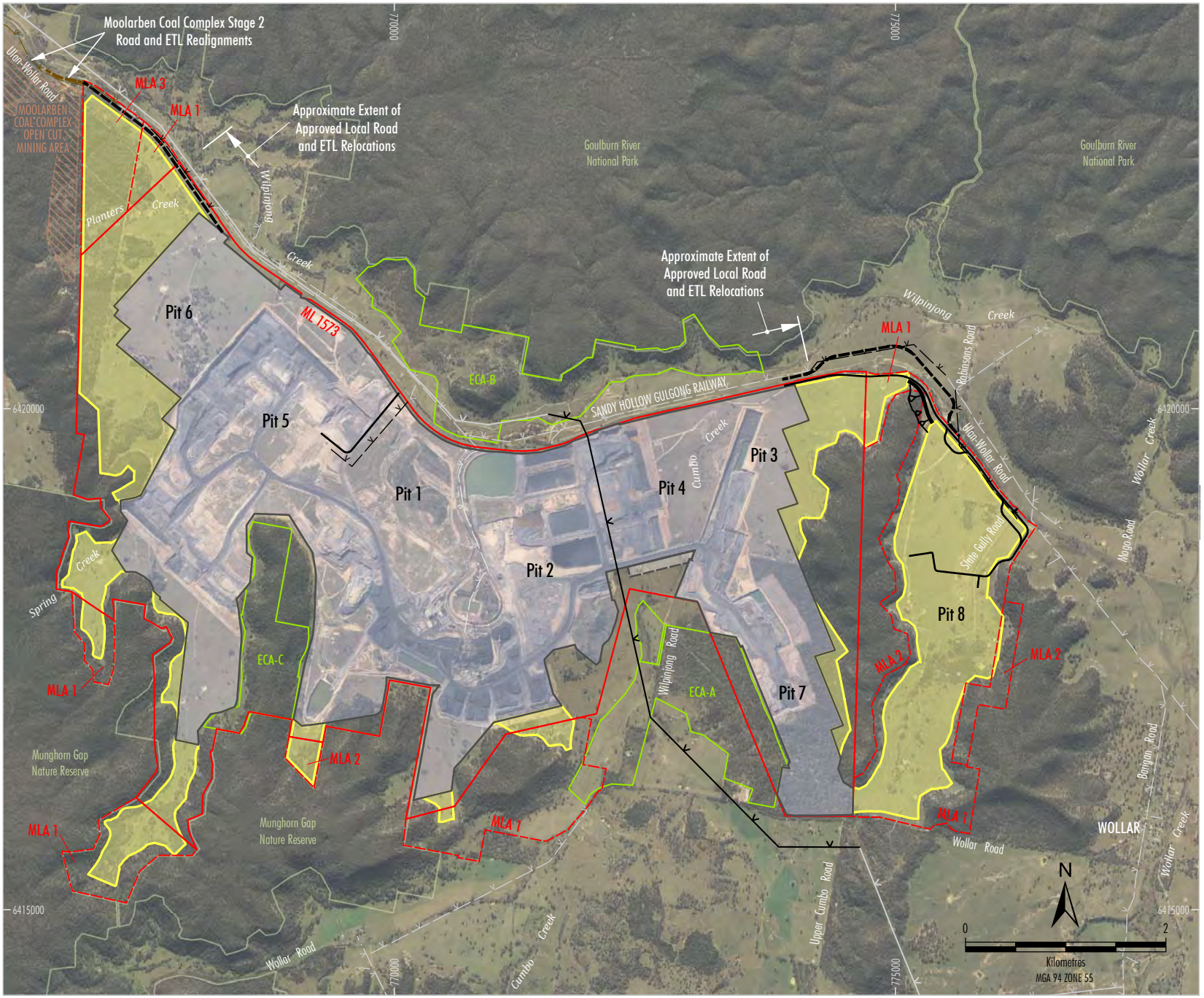
Source: NSW Land & Property Information (2015); NSW Dept of Industry (2015); Geoscience Australia (2011)

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Project Location

Figure 1



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Approved/Existing Open Cut and Contained Infrastructure Area
- Relocated Block Bank and Cumbo Creek Disturbance Area
- Proposed Open Cut Extension Area
- Proposed Public Road Realignment
- Proposed Pit 3/8 Haul Road
- Proposed Service Road
- Proposed Local ETL Realignment/Relocation
- Proposed Relocated TransGrid 330 kV ETL
- Existing Local ETL
- Existing TransGrid 330 kV ETL
- Environment and Conservation Area

Source: WCPL (2015); NSW Dept of Industry (2015)
Orthophoto: WCPL (Jun 2015; Jun 2014)

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WILPINJONG EXTENSION PROJECT

Project General Arrangement

Figure 2

WIL-12-12_WEP_EIS_Visual_204B

2 EXISTING LANDSCAPE AND VISUAL SETTING

2.1 LANDSCAPE CHARACTER AND SCENIC QUALITY

It has been established through previous studies that scenic quality increases as topographic ruggedness and relative relief increase (Burns and Rundell, 1969; Leonard and Hammond, 1984; Anderson *et al*., 1976 in EDAW Australia, 2006). EDAW Australia (2006) also found that scenic quality can increase as the patterning of vegetation increases.

Landforms in the general Project area are characterised by the narrow floodplains associated with tributaries of the Goulburn River, undulating foothills, ridges and escarpments of the Great Dividing Range and the dissected landforms of the Goulburn River National Park and the Munghorn Gap Nature Reserve.

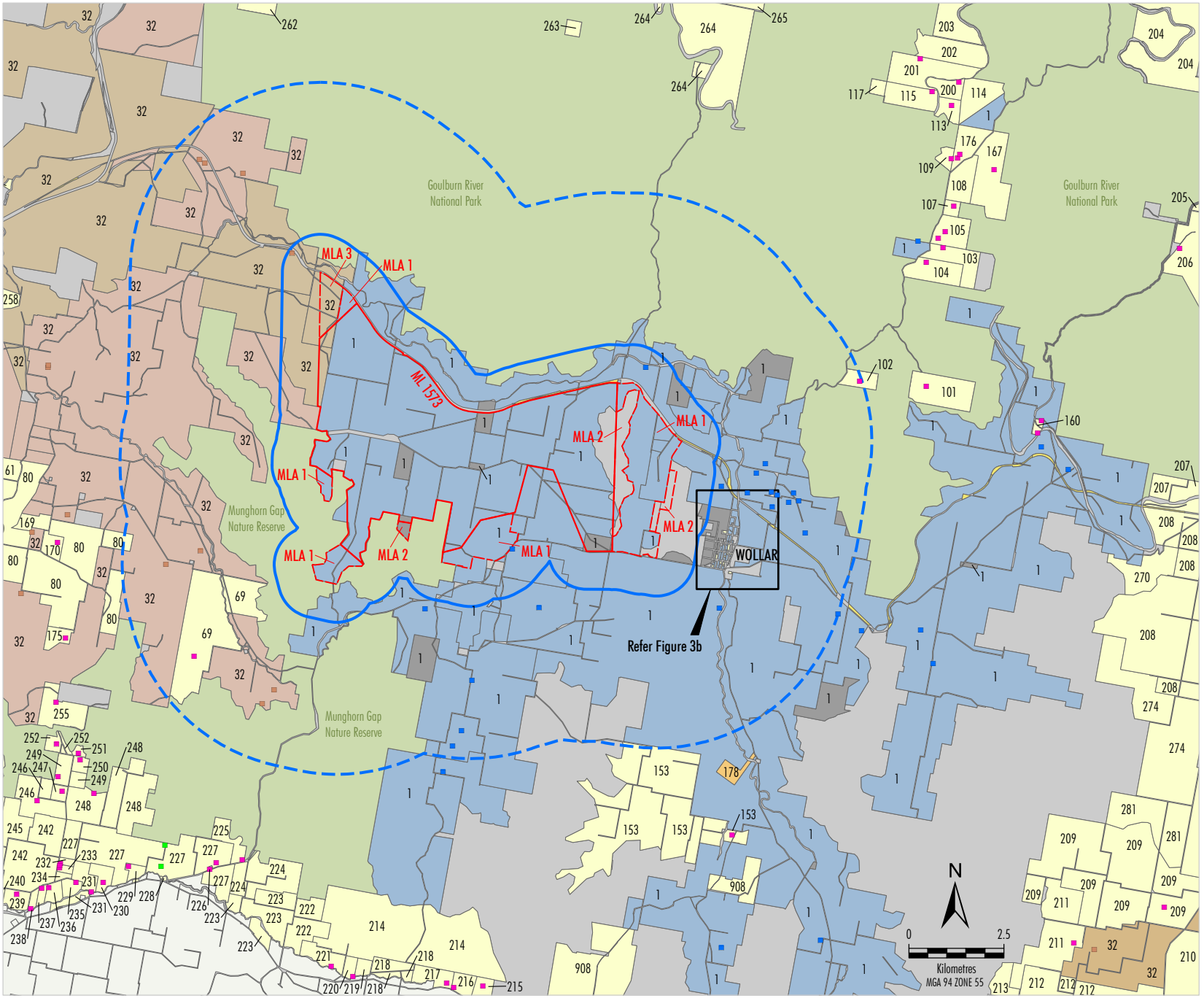
Wilpinjong Creek (part of the Goulburn River Catchment) is located to the immediate north of the open cut operations with steep timbered ridges located to the south, west and east.

Elevations in the vicinity of the Project range from approximately 350 metres (m) Australian Height Datum (AHD) at Wilpinjong Creek to approximately 610 m AHD on ridges to the immediate south of the Wilpinjong Coal Mine.

The Wilpinjong Coal Mine and surrounds are comprised of a number of distinct land use types and landscape units of varying levels of landscape quality. These have been defined as follows:

- Agricultural Areas – cleared pasture areas predominately for beef and wool production.
- Existing Mine Developments – coal mining operations are located at the Wilpinjong Coal Mine and to the west of the Project.
- Residential Dwellings – detached residential dwellings exist mostly to the south and to the east of the Project (Figures 3a, 3b and 3c). The Village of Wollar is located approximately 2 km to the east of the Project.
- Goulburn River National Park – is located approximately 1 km to the north of the Project.
- Munghorn Gap Nature Reserve – is located ajdacent to the south and south-west of the Project.
- Watercourses – the Project is located in the greater Wollar Creek catchment which drains to the Goulburn River approximately 7 km to the north-east of the Wilpinjong Coal Mine. At a local level, the Project is located in the Wilpinjong Creek catchment and is drained by a number of local tributary watercourses (Figure 4). Cumbo Creek, a tributary of Wilpinjong Creek, is also approved to be relocated and the existing alignment of the creek mined as a component of the approved Wilpinjong Coal Mine.

The Wilpinjong Coal Mine area and surrounds support a diversity of flora species and communities. Remnant vegetation is dominated by eucalypt woodland and forests. A number of tree species including Narrow-leaved Ironbark (*Eucalyptus crebra*), Coast Grey Box (*E*. *moluccana*), Black Cypress Pine (*Callitris endlicheri*), and Rough-barked Apple (*Angophora floribunda*) are widespread and common and associate with many other species. Other tree species include Yellow Box (*E*. *melliodora*), Blakely's Red Gum (*E*. *blakelyi*), White Box (*E*. *albens*) and Grey Gum (*E*. *punctata*) (HunterEco, 2015).



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Peabody Energy
- Bylong Coal Project
- Moolarben Coal Mine
- Ulan Coal Mine
- Crown Land (Special Lease)
- Crown Land
- TransGrid
- Railway Land
- Relevant Private Landholder
- Other Land (Ownership not identified)
- National Parks and Wildlife Service
- 1 Landholder Number *
- Peabody Energy Dwelling
- Ulan/Moolarben Dwelling
- Private Dwelling
- Community Building
- Local Setting Boundary (1 km from Project)
- Sub-regional Setting Boundary (5 km from Project)

* Refer Figure 3c for List of Landholders.

Source: WCPL (2015); NSW Dept of Industry (2015); NSW Land & Property Information (2015)

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WILPINJONG EXTENSION PROJECT

Relevant Land Ownership Plan

Figure 3a

WIL-12-12_WEP_EIS_Visual_205C

WIL-12-12_WEP_EIS_Visual_207B

LEGEND

- Peabody Energy
- Crown Land (Special Lease)
- Crown Land
- Railway Land
- Relevant Private Landholder
- 1 Landholder Number *
- Peabody Energy Dwelling
- Community Building
- Private Dwelling
- Local Setting Boundary (1 km from Project)

Source: WCPL (2015); NSW Dept of Industry (2015); NSW Land & Property Information (2015)

* Refer to Figure 3c for List of Landholders.

WILPINJONG EXTENSION PROJECT

Relevant Land Ownership Plan
Wollar Inset

Figure 3b

REF NO	LANDHOLDER
1	PEABODY ENERGY
32	ULAN/MOOLARBEN/CASCADE COAL CONTROLLED LAND
61	J SZYMKARCZUK
69	DJ & JG STOKES
80	RB COX
101	NAB PIERCE
102	W FILIPCZYK
103	MR MOLLOY
104	J & IBD HARTIG
105	DL & EH TOOMBS
107	RJ LEE
108	PA CROSSE
109	MO VAISEY
113	AJ BRETT, S & D HILT
114	C WARE, N PARKER
115	T AUDRETSCH
117	S MCHUGH
150	E TINDALE, A MCDONALD & WS WILSON
153	TW MARSKELL
160	B SMILES & A SMILES-SCHMIDT
167	GJ JAQUES
169	J ASZTALOS
170	MB COX
175	SF & MR ANDREWS
176	S RAYNER
178	TRANSGRID
200	BJ HUGHES, CA BEINSSEN, K ASLETT
201	SJ CUTHBERT
202	SV MCGUINESS & RL PRYOR
203	WP PRATT, CB & EA TOBIN
204	RON POTTER (FARMS) PTY LTD
205	AJ O'BRIEN
206	EA HUNT
207	AL DUNN
208	JUSTIN KENNEDY LEWIS PTY LIMITED
209	ICELINK PTY LIMITED
210	TIMNATH PTY. LIMITED
211	MJ & BH PERRY
212	BONGALONG PTY LTD
213	IWI CATTLE CO.PTY.LIMITED
214	A ISAAC
215	TM LARKIN & ET MONAGHAN
216	RJ WAUGH
217	AE MCDONALD
218	RE, MR & H LUESCHER
219	JA LUCKETT
220	V & N STANKOVIC

REF NO	LANDHOLDER
221	HC & E VON BISCHOFFSHAUSEN
222	RT & JM BILES
223	NAGERA PTY LIMITED
224	CR & VK HARTAS
225	JW CAMPBELL
226	RD BALL
227	JB & J BAKER
228	KA ROSS
229	DE & JI SMITH
230	TA & RN STAIT
231	MR FIELD
232	J TAYLOR
233	CDR & ASE MARTIN
234	MP & KA REEDY
235	PJ HOLLOW & SG MCNALLY
236	JIM & CG STEVENSON
238	M ANDONOVSKI
239	MJ BRYANT
240	KJ & SJ DUGGAN
242	RR HOLLOW
245	FS FAZIO
246	AJ & JA BOLAND
247	DA BOLAND
248	GA, MA, CJ & CM LANG
249	AP & DE BOLAND
250	CJ WARD
251	PD FRENCH & LE SATTLER
252	CM POOLMAN, A&W CREIGHTON
255	YR JONES
258	ICI AUSTRALIA OPERATIONS PTY LIMITED
262	JE MULLINS & CD IMRIE
263	T NEVELL
264	TURILL TC PTY LTD
265	J & SJ HORVATH
270	MT PENNY PROPERTIES PTY LTD
274	GEBLE PTY LTD
281	LOCAWAY PTY LTD
900	THE TRUSTEES OF THE ROMAN CATHOLIC CHURCH FOR THE DIOCESE OF BATHURST
903	MJ HARDIMAN & DM HOGAN
908	AE & AW LYNCH
914	S NICOD
921	EH TOOMBS
933	CR FAULKNER
942	RWM & SM SCHNEIDER
952	BJ & DM O'HARA
959	CJ CLARKE

WIL-12-12 WEP EIS Visual 001B

* Refer to Figure 3a and 3b for Land Ownership Plan.

Source: WCPL (2015); NSW Land & Property Information (2015)

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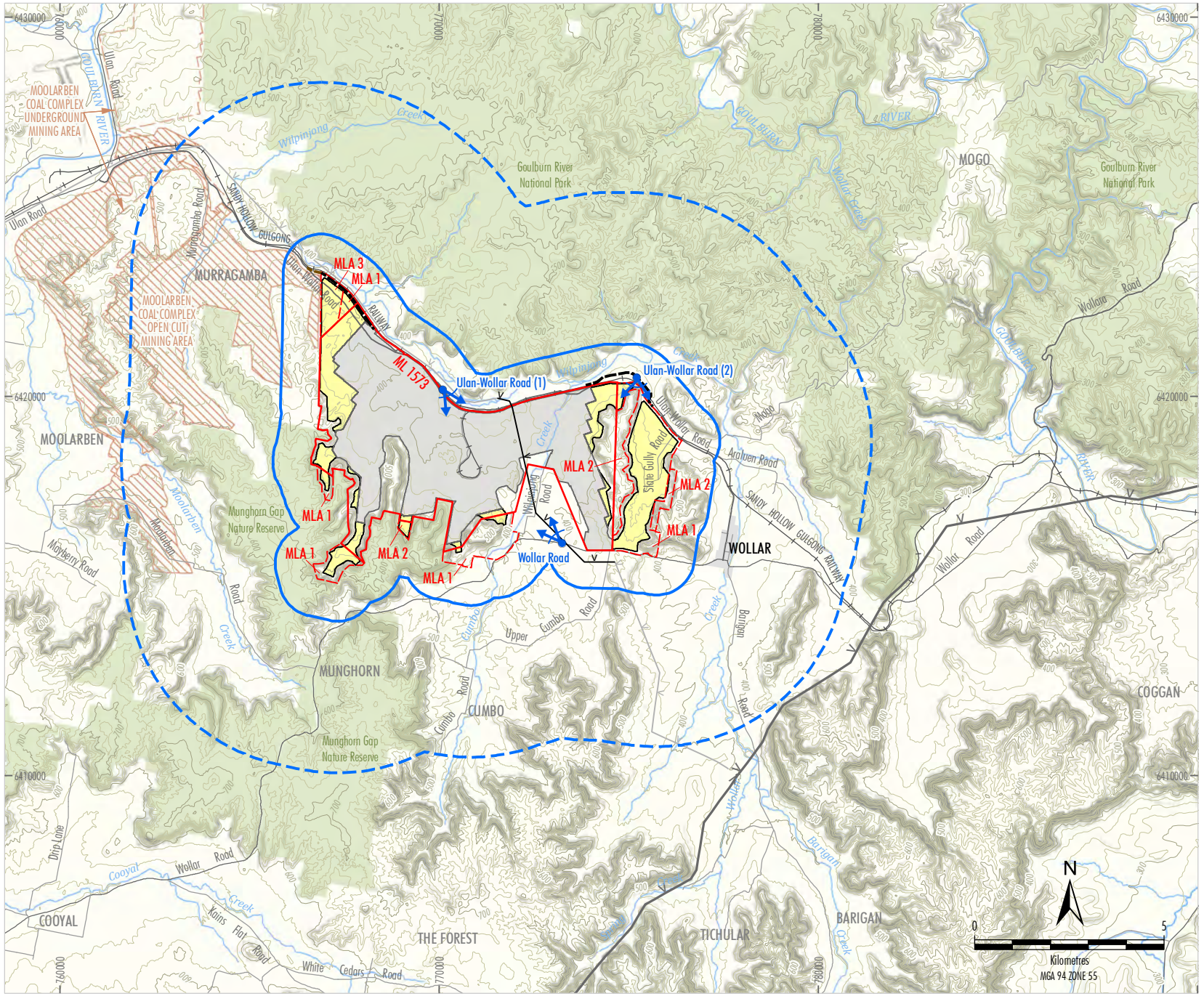
WILPINJONG EXTENSION PROJECT

Relevant Landholder List *

Figure 3c



LEGEND

- Mining Lease Boundary
- Mining Application Licence Boundary
- Approved/Existing Open Cut and Contained Infrastructure Area
- Proposed Open Cut Extension Area
- Proposed Public Road Realignment
- Proposed Relocated TransGrid 330 kV ETL
- Existing TransGrid 330 kV ETL
- Existing TransGrid 500 kV ETL
- National Park or Nature Reserve
- Local Setting Boundary (1km from Project)
- Sub-regional Setting Boundary (5 km from Project)
- Viewpoint

Source: WCPL (2015); NSW Land & Property Information (2015); NSW Dept of Industry (2015)

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WILPINJONG EXTENSION PROJECT

Visual Setting

Figure 4

WIL-12-12_WEP_EIS_Visual_201E

The visual settings (e.g. local, sub-regional and regional) are based on distance from the Project landforms as follows (Figure 4):

- regional setting – greater than approximately 5 km from the Project landforms;
- sub-regional setting – approximately 1 to 5 km from the Project landforms; and
- local setting – up to approximately 1 km from the Project landforms.

Regional Setting (> 5 km)

The regional setting has attributes of moderate to high scenic quality due to the presence of the Goulburn River National Park to the north and the Munghorn Gap Nature Reserve to the south-west of the Project. The contrast between the vegetation and topography of the ranges and the cleared agricultural valleys adds to visual interest.

The regional setting also has attributes of lower scenic quality associated with the Moolarben Coal Complex and Ulan Mine Complex which are located immediately to the west and some 11 km to the north-west of the Project, respectively.

Ulan is a small village located within the Project regional setting, located approximately 8 km to the west north-west.

Sub-regional Setting (1 to 5 km)

The sub-regional setting is dominated by vegetated elevated areas (including the Goulburn River National Park and the Munghorn Gap Nature Reserve) and cleared agricultural valleys.

The sub-regional setting also has attributes of lower scenic quality associated with the Moolarben Coal Complex which is located to the west of the Project.

The Village of Wollar is located within the Project sub-regional setting, located approximately 2 km to the east. There are a limited number of privately owned dwellings in the sub-regional setting, due to the extensive land ownership of Peabody Energy and other local resource companies (Figure 3).

Other features of the sub-regional setting include power supply infrastructure associated with the existing TransGrid Wollar to Wellington 330 kilovolt (kV) electricity transmission line (ETL), local ETLs, Wollar Road, Ulan-Wollar Road and Sandy Hollow Gulgong Railway.

Local Setting (<1 km)

The visual character of the local setting is dominated by the existing Wilpinjong Coal Mine and cleared agricultural land.

Most natural vegetation in the local setting is restricted to patches of paddock trees on the valley floor and denser remnant vegetation on the slopes and ridges surrounding the Wilpinjong Coal Mine (including in areas of the Goulburn River National Park and the Munghorn Gap Nature Reserve).

Wilpinjong Creek is located to the immediate north of the open cut operations. Cumbo Creek (a tributary of Wilpinjong Creek) runs south-north through the existing Wilpinjong Coal Mine and will be relocated and the existing alignment of the creek mined as part of the approved Wilpinjong Coal Mine operations.

The south-eastern extent of the approved Moolarben Coal Complex surface development area will be located to the immediate west of the north-western extent of the Project (Figure 2) but has only recently commenced construction.

Other features of the local setting include power supply infrastructure associated with the existing TransGrid Wollar to Wellington 330 kV ETL, local ETLs, Wollar Road, Ulan-Wollar Road and Sandy Hollow Gulgong Railway.

There are no small villages or towns in the local setting. There is also no privately owned freehold land in the local setting, due to the extensive land ownership of Peabody Energy and other local resource companies (Figure 3).

2.2 LANDSCAPE CHARACTER SIGNIFICANCE

A review of designations or classifications of the broader landscape setting from a cultural perspective was undertaken.

The Register of National Estate in the Commonwealth National Heritage Database (Department of the Environment, 2015) lists both the Goulburn River National Park and Munghorn Gap Nature Reserve.

The Register of National Estate listing for the Goulburn River National Park states:

> *The landscape of the reserve is visually dramatic, and the vegetation full of colour contrasts, giving this place considerable aesthetic appeal…*
>
> *The irregular topography and colour contrasts within the forest and woodland canopy has considerable scenic appeal.*

The Munghorn Gap Nature Reserve was gazetted in the Register of National Estate (Department of the Environment, 2015) for the protection and study of fauna. No aspects relating to visual amenity were described in the Register of National Estate listing.

No other citations were identified for the classification of significance of the landscape in the vicinity.

3 REVIEW OF PREVIOUS VISUAL ASSESSMENTS AND EXISTING VISUAL MITIGATION MEASURES

EDAW Gillespies (2005) undertook a visual assessment for the Wilpinjong Coal Mine and assessed that the Wilpinjong Coal Mine would have a negligible to low visual impact.

EDAW Gillespies (2005) reported that the most sensitive visual settings in the vicinity of the Wilpinjong Coal Mine area are rural dwellings. All of the rural dwellings that were assessed as potential sensitive viewpoints in EDAW Gillespies (2005) have been acquired by Peabody Energy and as a result there are no longer any private rural dwellings that have direct views of the Wilpinjong Coal Mine.

A visual assessment, undertaken as a component of the *Wilpinjong Coal Mine Modification Environmental Assessment (Modification 5),* concluded that Modification 5 would not be expected to significantly alter visual impacts from sensitive viewpoints (WCPL, 2013).

Direct views of night-lighting sources at the Wilpinjong Coal Mine occur along Ulan-Wollar Road. Direct views of night-lighting from Wollar Road are more screened by intervening topography and vegetation, however, lighting on taller infrastructure such as the materials handling conveyors is visible (WCPL, 2013).

WCPL has implemented a number of measures to minimise potential visual impacts at the Wilpinjong Coal Mine:

- Vegetated visual bunds have been constructed along the northern boundary of Pit 5.
- Flood bunds that also act as visual bunds have been constructed around Pit 3 near Ulan-Wollar Road.
- A tree screen (consisting of approximately 1,100 trees) has been established along the east-west section of Wollar Road to the south of the Wilpinjong Coal Mine following approval of Modification 5.
- Trees have been established along the mine access road.
- Mine areas are rehabilitated as soon as practicable following disturbance.
- Temporary rehabilitation of the elevated waste rock emplacement will occur following construction (e.g. with aerial seeding).
- All external lighting is operated in accordance with Australian Standard 4282 (INT) 1995 – *Control of Obtrusive Effects of Outdoor Lighting* as required by Condition 55, Schedule 3 of Project Approval 05-0021.

4 PROJECT DESCRIPTION – VISUAL CHARACTER

4.1 OVERVIEW

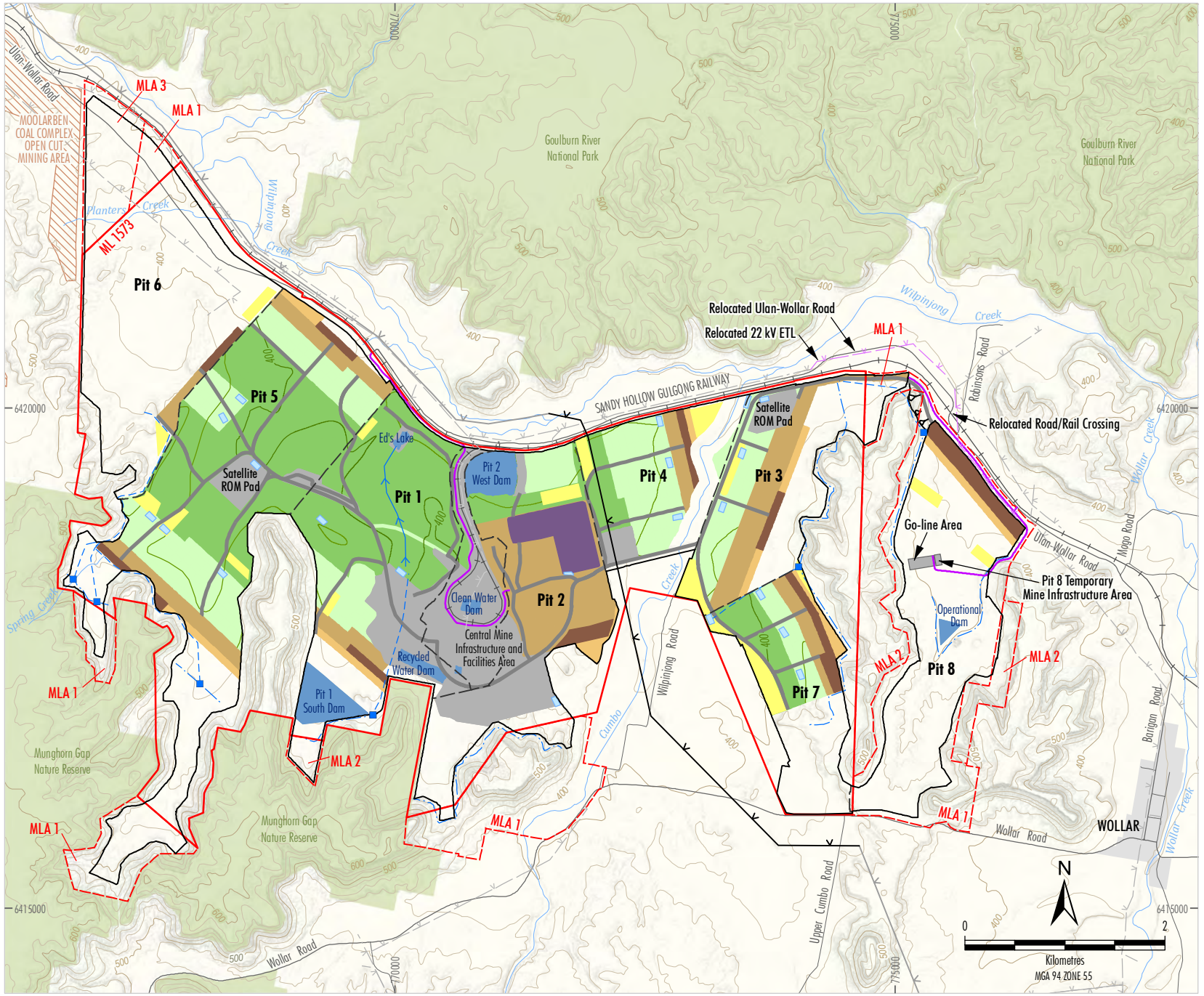
The Project would include the following activities:

- open cut mining of ROM coal from the Ulan Coal Seam and Moolarben Coal Member in Mining Lease (ML) 1573 and in new Mining Lease Application areas in Exploration Licence (EL) 6169 and EL 7091;
- approximately 800 hectares (ha) of open cut extensions, including:
  - approximately 500 ha of incremental extensions to the existing open cut pits in areas of ML 1573 and EL 6169;
  - development of a new open cut pit of approximately 300 ha in EL 7091 (Pit 8);
- continued production of up to 16 million tonnes per annum (Mtpa) of ROM coal;
- continued use of the Wilpinjong Coal Mine Coal Handling and Preparation Plant and general coal handling and rail loading facilities and other existing and approved supporting mine infrastructure;
- rail transport of approximately 13 Mtpa of thermal product coal to domestic and export customers (within existing maximum and annual average daily rail limits);
- relocation of a section of the TransGrid Wollar to Wellington 330 kV ETL to facilitate mining in Pit 8;
- various local infrastructure relocations to facilitate the mining extensions (e.g. realignment of Ulan-Wollar Road and associated rail level crossing, relocation of local ETLs and services);
- construction and operation of additional mine access roads to service new mining facilities located in Pits 5 and 8;
- construction and operation of new ancillary infrastructure in support of mining including: mine infrastructure areas, ROM pads, haul roads, electricity supply, communications installations, light vehicle roads, access tracks, remote crib huts, up-catchment diversions, dams, pipelines and other water management structures;
- extension of the approved mine life by approximately seven years (i.e. from approximately 2026 to 2033);
- a peak operational workforce of approximately 625 people;
- ongoing exploration activities; and
- other associated minor infrastructure, plant and activities.

A detailed description of the Project is provided in Section 2 of the Main Report of the EIS.

The general arrangement of the Project during Years 2, 4, 8, 12, 15 and post-mining is shown on Figures 5 to 10.

The following sub-sections provide a more detailed description of the major aspects of the Project that could potentially impact the visual landscape.



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Open Cut and Contained Infrastructure Area
- Pit Boundary
- Active Mining
- Active Waste Rock Emplacement
- Topsoil Stripped
- Topsoil Stockpile
- Initial Rehabilitation
- Established Rehabilitation
- Tailings Dam
- Infrastructure Area
- Main Haul Road
- Mine Access Road
- Drainage Line
- Diversion Structure
- Diversion Pipeline
- Transfer Dam
- Sediment Dam
- Existing Surface Contour
- Final Landform Contour
- Existing Local ETL
- Proposed Local ETL Realignment/Relocation
- Existing TransGrid 330 kV ETL
- Proposed Relocated TransGrid 330 kV ETL

Source: WCPL (2015); NSW Land & Property Information (2015); NSW Dept of Industry (2015)

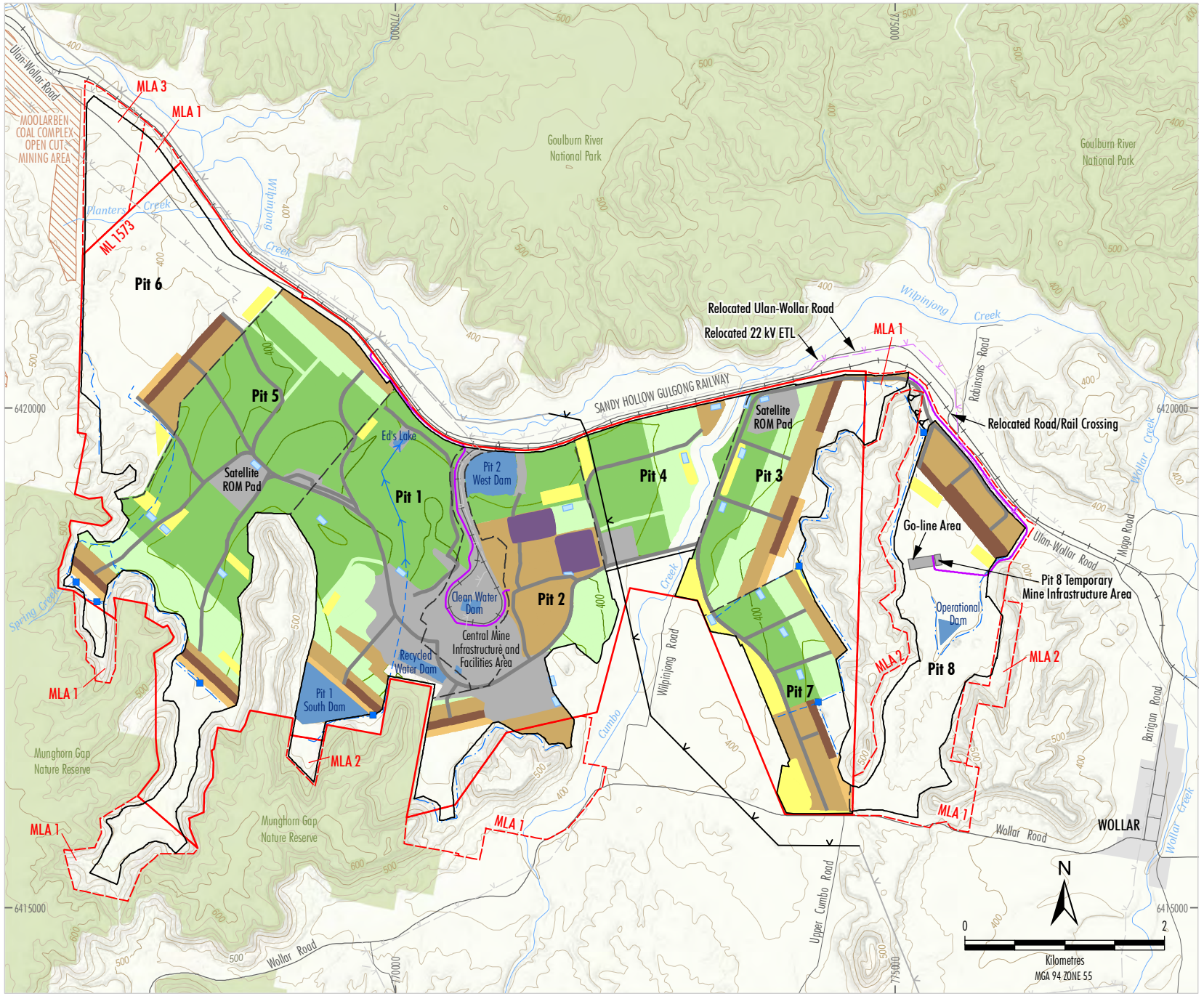
Peabody ENERGY

WILPINJONG EXTENSION PROJECT

General Arrangement
Year 2

Figure 5

WIL-12-12_WEP_EIS_Visual_209A



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Open Cut and Contained Infrastructure Area
- Pit Boundary
- Active Mining
- Active Waste Rock Emplacement
- Topsoil Stripped
- Topsoil Stockpile
- Initial Rehabilitation
- Established Rehabilitation
- Tailings Dam
- Infrastructure Area
- Main Haul Road
- Mine Access Road
- Drainage Line
- Diversion Structure
- Diversion Pipeline
- Transfer Dam
- Sediment Dam
- Existing Surface Contour
- Final Landform Contour
- Existing Local ETL
- Proposed Local ETL Realignment/Relocation
- Existing TransGrid 330 kV ETL
- Proposed Relocated TransGrid 330 kV ETL

Source: WCPL (2015); NSW Land & Property Information (2015); NSW Dept of Industry (2015)

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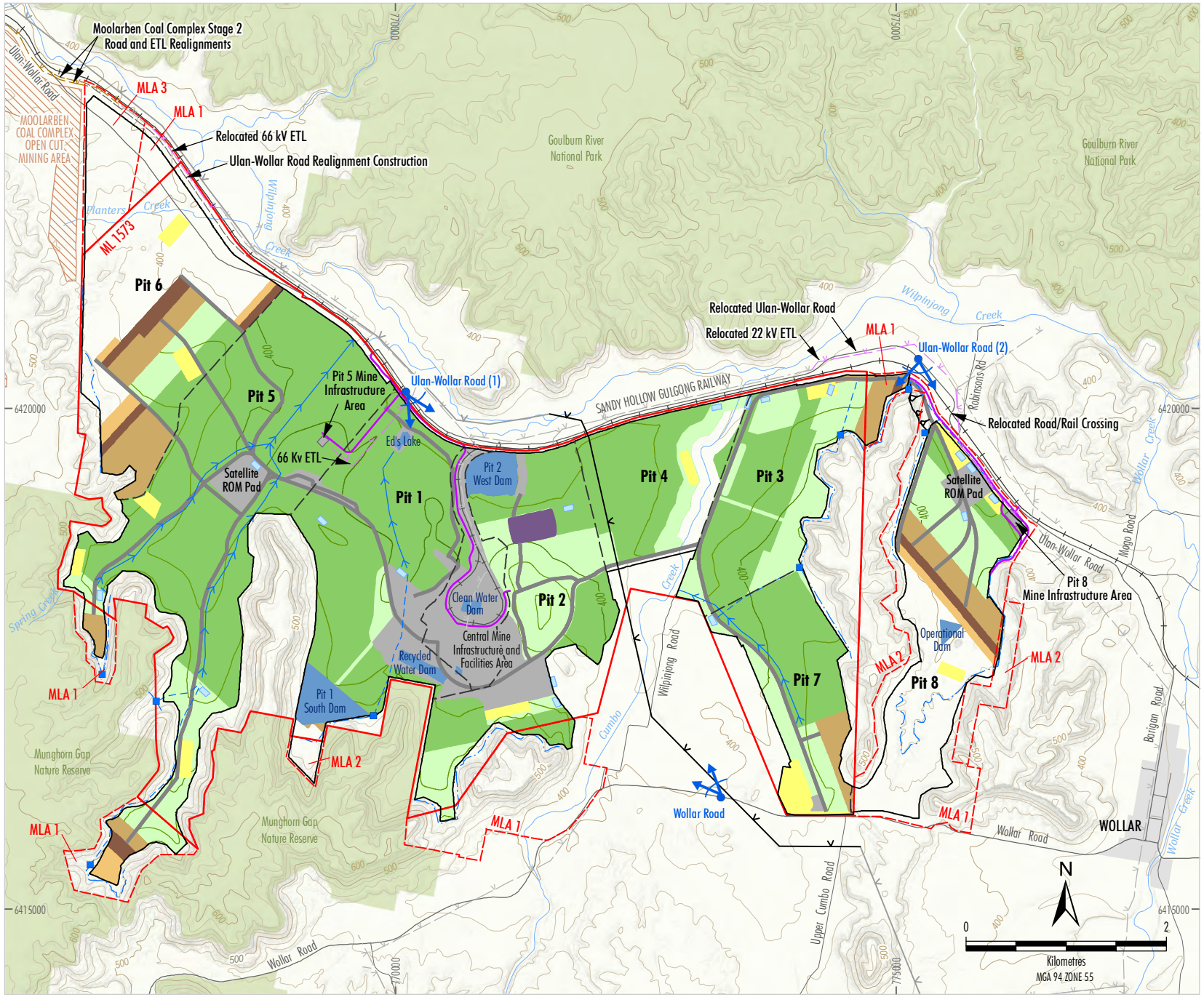
WILPINJONG EXTENSION PROJECT

General Arrangement
Year 4

Figure 6

WIL-12-12_WEP_EIS_Visual_210A



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Open Cut and Contained Infrastructure Area
- Pit Boundary
- Active Mining
- Active Waste Rock Emplacement
- Topsoil Stripped
- Topsoil Stockpile
- Initial Rehabilitation
- Established Rehabilitation
- Tailings Dam
- Infrastructure Area
- Main Haul Road
- Mine Access Road
- Drainage Line
- Diversion Structure
- Diversion Pipeline
- Transfer Dam
- Sediment Dam
- Existing Surface Contour
- Final Landform Contour
- Existing Local ETL
- Proposed Local ETL Realignment/Relocation
- Existing TransGrid 330 kV ETL
- Proposed Relocated TransGrid 330 kV ETL
- Viewpoint

Source: WCPL (2015); NSW Land & Property Information (2015); NSW Dept of Industry (2015)

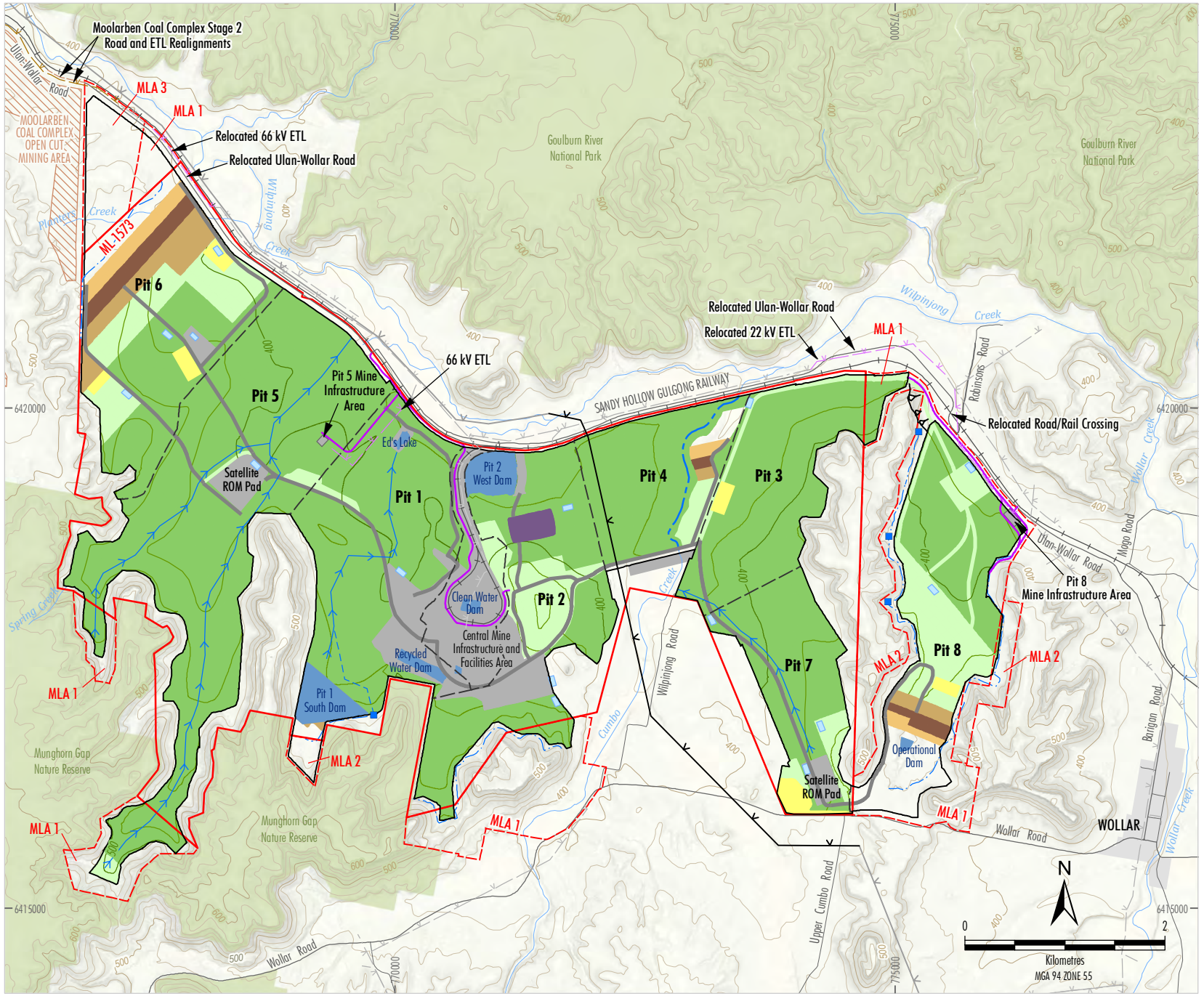
Peabody ENERGY

WILPINJONG EXTENSION PROJECT

General Arrangement
Year 8

Figure 7

WIL-12-12_WEP_EIS_Visual_211A



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Open Cut and Contained Infrastructure Area
- Pit Boundary
- Active Mining
- Active Waste Rock Emplacement
- Topsoil Stripped
- Topsoil Stockpile
- Initial Rehabilitation
- Established Rehabilitation
- Tailings Dam
- Infrastructure Area
- Main Haul Road
- Mine Access Road
- Conceptual Cumbo Creek Realignment
- Drainage Line
- Diversion Structure
- Diversion Pipeline
- Transfer Dam
- Sediment Dam
- Existing Surface Contour
- Final Landform Contour
- Existing Local ETL
- Proposed Local ETL Realignment/Relocation
- Existing TransGrid 330 kV ETL
- Proposed Relocated TransGrid 330 kV ETL

Source: WCPL (2015); NSW Land & Property Information (2015); NSW Dept of Industry (2015)

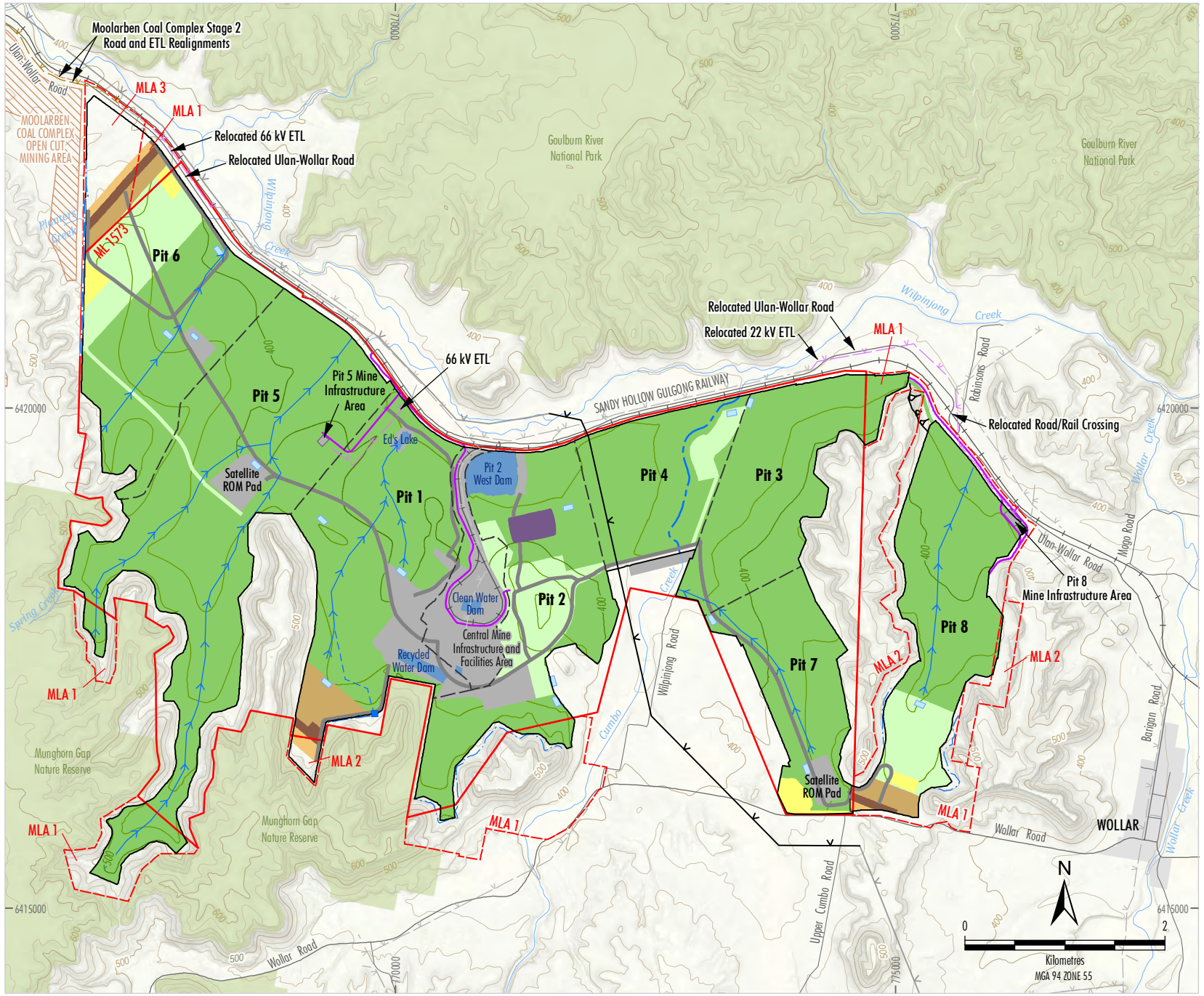
Peabody ENERGY

WILPINJONG EXTENSION PROJECT

General Arrangement
Year 12

Figure 8

WIL-12-12_WEP_EIS_Visual_212A



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Open Cut and Contained Infrastructure Area
- Pit Boundary
- Active Mining
- Active Waste Rock Emplacement
- Topsoil Stripped
- Topsoil Stockpile
- Initial Rehabilitation
- Established Rehabilitation
- Tailings Dam
- Infrastructure Area
- Main Haul Road
- Mine Access Road
- Conceptual Cumbo Creek Realignment
- Drainage Line
- Diversion Structure
- Diversion Pipeline
- Transfer Dam
- Sediment Dam
- Existing Surface Contour
- Final Landform Contour
- Existing Local ETL
- Proposed Local ETL Realignment/Relocation
- Existing TransGrid 330 kV ETL
- Proposed Relocated TransGrid 330 kV ETL

Source: WCPL (2015); NSW Land & Property Information (2015); NSW Dept of Industry (2015)

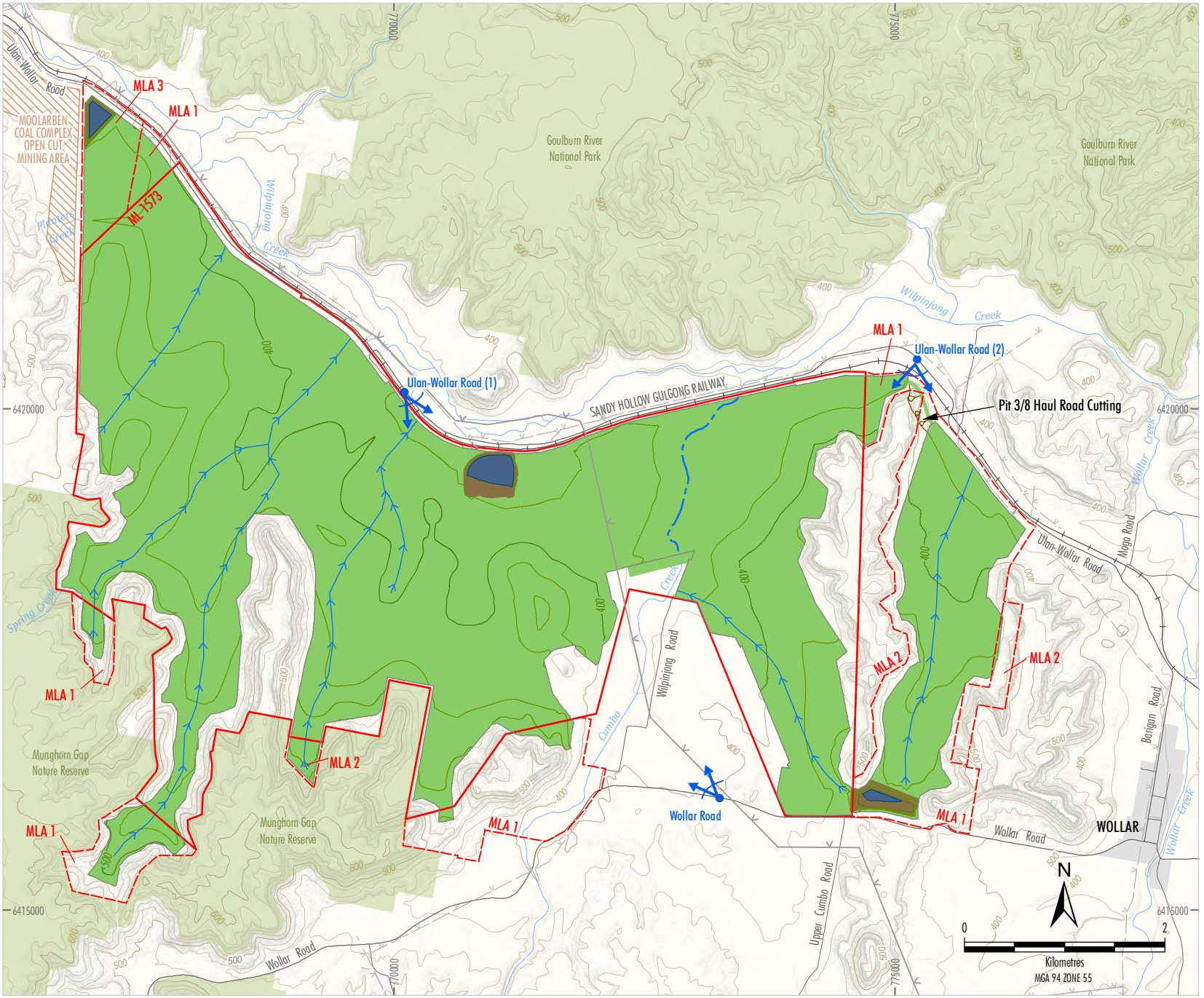
Peabody ENERGY

WILPINJONG EXTENSION PROJECT

General Arrangement
Year 15

Figure 9

WIL-12-12_WEP_EIS_Visual_213A



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Established Rehabilitation
- Final Void
- Final Void Waterbody [1]
- Conceptual Cumbo Creek Realignment
- Drainage Line
- Existing Surface Contour
- Final Landform Contour
- Local ETL
- TransGrid 330 kV ETL
- Viewpoint

[1] Pit 8 Final Void is predicted to be dry during periods of low rainfall.

Source: WCPL (2015); NSW Dept of Industry (2015); NSW Land & Property Information (2015)

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

General Arrangement
Post-mining

Figure 10

WIL-12-12_WEP_EIS_Visual_214C

4.1.1 Project Landforms

Open Cut Pits

The Project would include approximately 500 ha of incremental extensions to the approved open cut pits (Figure 2). The open cut pit extensions to the north-east and north-west of the approved open cut pits would potentially increase the visibility of the open cut workings (e.g. high walls, haul roads) from Ulan-Wollar Road. The visibility of the open cut workings (e.g. high walls, haul roads) associated with the southern open cut pit extensions would generally be lower due to the distance from Wollar Road and the presence of intervening topography and vegetation. The established tree screen between Wollar Road and the open cut extensions would also progressively reduce views of the southern open cut extensions as it matures. Views of the southern open cut pit extensions would also be available from isolated proximal areas of the Munghorn Gap Nature Reserve.

Pit 8 (approximately 300 ha) (Figure 2) would potentially increase the visibility of the open cut workings from Ulan-Wollar Road and Wollar Road. Views from Wollar Road would be limited by the construction of a perimeter bund and/or vegetation screen along the southern extent of the new open cut pit. Pit 8 would also be visible from isolated proximal areas of the Goulburn River National Park.

The existing Pit 3 haul road would be extended to access the north-west corner of Pit 8 at the commencement of the pit. Due to local topography and the open cut design, construction of this road would involve development of a cutting on the northern point of the ridgeline separating Pits 3 and 8 (Figure 2). The Pit 3/8 haul road cutting would remain as a permanent landscape feature.

Backfilled Mine Voids

Waste rock (including overburden and interburden) mined during the development of the Project would continue to be used to in-fill the mine voids behind the advancing open cut operations.

The elevated waste rock emplacement landform would be constructed to a temporary elevation of up to 450 m AHD and would be temporarily rehabilitated, before being reshaped and pushed down to a maximum elevation of approximately 440 m AHD at the end of the mine life as a component of finalising site landforms (Figure 10). The Project would not change the maximum elevation of the approved elevated waste rock emplacement (i.e. approximately 450 m AHD).

The backfilled mine voids would be progressively shaped by dozers for rehabilitation activities (i.e. re-contouring, topsoiling and revegetation) to integrate where practicable with adjoining natural landforms.

Final Voids

At the cessation of mining, final voids would remain in the southern end of Pit 8, the north-west of Pit 6, and in the north of Pit 2 (Figure 10). Potential views of these final landform features would be limited by the perimeter bunds and/or vegetation screens that would be constructed around them. Views of the final voids in Pits 2 and 6 would be available from isolated proximal areas of the Goulburn River National Park and the Munghorn Gap Nature Reserve.

The progressive development of open cut pits and corresponding infilling of the mine voids behind the advancing pit face would result in views of changing mine landforms being available from public vantage points as mining progresses.

4.1.2 Project Infrastructure

The Project would include the development of the following additional supporting mine infrastructure:

- satellite ROM pads;
- satellite mine infrastructure areas; and
- ETL and road relocations and extensions.

Development of Satellite Run-of-Mine Pads

To reduce the size of the central ROM pads and to manage haul truck travel distances, the Project would utilise a number of satellite ROM pads to service the more distant open cut areas.

These satellite ROM pads would be located within the proposed open cut limits.

One satellite ROM pad would be located in Pit 5 to service Pits 5 and 6. Another satellite ROM pad would service Pits 3, 7 and 8 and would be relocated as the mine progresses to optimise haul distances (Figures 5 to 10).

Development of Satellite Mine Infrastructure Areas

Additional satellite mine infrastructure areas would be developed to service mining activities in Pit 8, Pit 5 and 6. These areas would include a temporary mine infrastructure area in Pit 8, a go-line area in Pit 8, a long-term mine infrastructure area in Pit 8 and a permanent mine infrastructure area in Pit 5.

The temporary mine infrastructure area in Pit 8 would be relocated to an area of rehabilitated mine workings north of the temporary facilities as mining in Pit 8 advances south.

Electricity Transmission Lines and Road Infrastructure

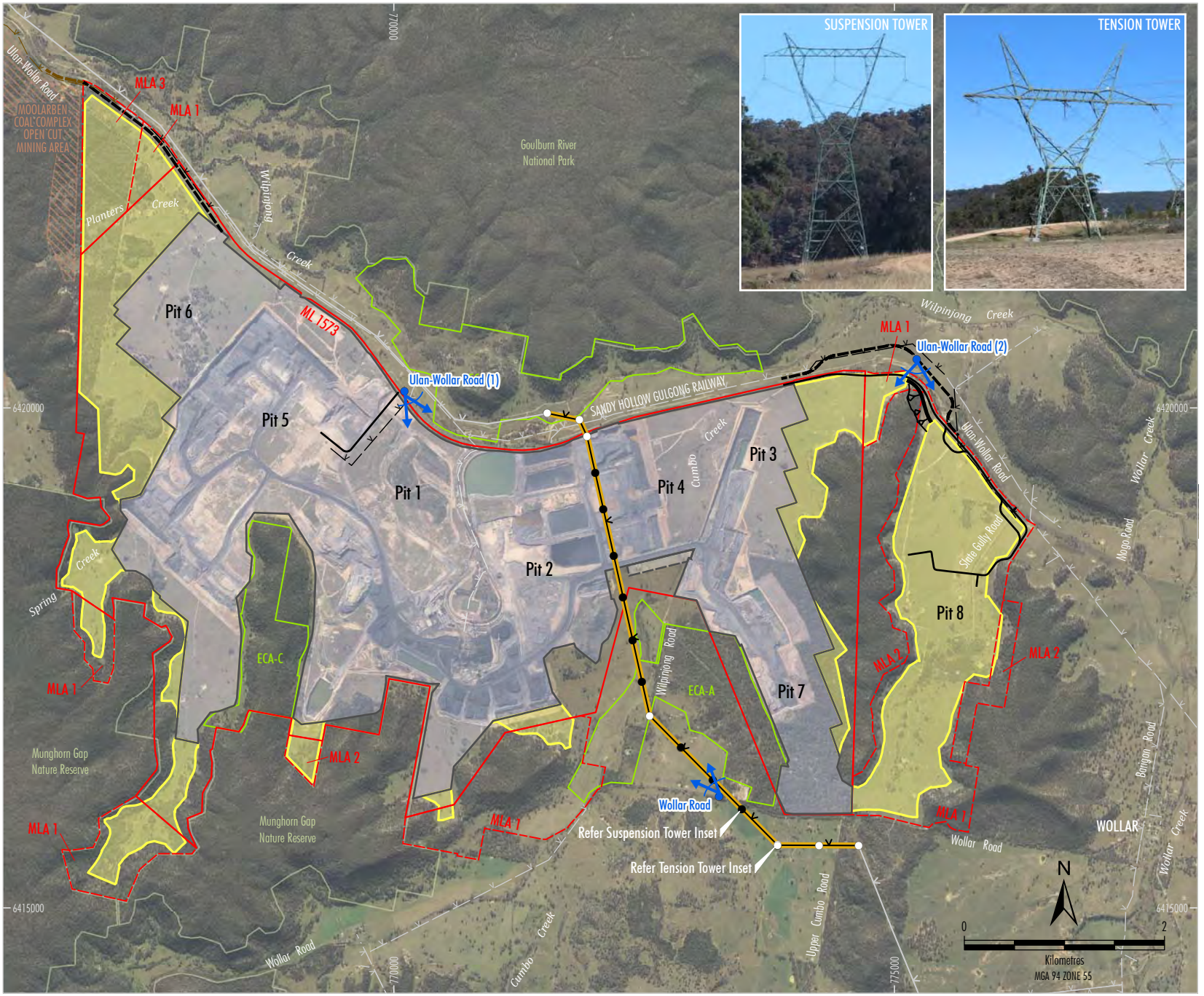
The Project would include the following ETL and road infrastructure upgrades:

- extension of Ulan-Wollar Road relocations;
- extension to relocations of local ETLs and services; and
- relocation of Wollar to Wellington TransGrid 330 kV ETL.

The development of Pit 8 in the east and the extension of Pit 6 in the west would require additional local road relocations (Figure 2). To maintain public road access ahead of mining, it is anticipated that the road relocations would be undertaken in stages as shown on Figures 5 to 10.

The extension of the open cuts and the development of Pit 8 would require the removal, relocation and/or extension of sections of local ETLs (Figure 11).

As the Project would include the development of an open cut in Slate Gully (Pit 8), the existing Wollar to Wellington 330 kV ETL would require relocation. In order to minimise the potential land disturbance associated with the relocation it is proposed to realign the 330 kV ETL over the backfilled mine voids of the Wilpinjong Coal Mine (Figure 11).



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Approved/Existing Open Cut and Contained Infrastructure Area
- Relocated Block Bank and Cumbo Creek Disturbance Area
- Proposed Open Cut Extension Area
- Proposed Public Road Realignment
- Proposed Pit 3/8 Haul Road
- Proposed Service Road
- Proposed Local ETL Realignment/Relocation
- Proposed Relocated TransGrid 330 kV ETL
- 60 m wide Development Easement
- Suspension Tower
- Tension Tower
- Existing Local ETL
- Existing TransGrid 330 kV ETL
- Enhancement and Conservation Area
- Viewpoint

Source: WCPL (2015); TransGrid (2015); NSW Dept of Industry (2015)
Orthophoto: WCPL (Jun 2015; Jun 2014)

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WILPINJONG EXTENSION PROJECT

Indicative Tower Locations
330 kV ETL Relocation

Figure 11

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4.1.3 Vegetation Clearance

The Project would require the progressive removal of approximately 354 ha of native vegetation communities and 668 ha of non-native vegetation (i.e. pastures) and existing disturbed areas. As a result, views of the Project landforms may increase due to the removal of existing intervening vegetation.

Landform profiling and rehabilitation (including revegetation) would continue to be undertaken progressively over the life of the Project to minimise potential visual impacts associated with vegetation clearance.

4.1.4 Landform Profiling and Rehabilitation

Landform profiling and rehabilitation of the backfilled mine voids would continue to be undertaken progressively over the life of the Project. The elevated waste rock emplacement is located adjacent to an existing ridgeline so it effectively forms an extension to the existing ridgeline. This would improve the integration of the landforms with the surrounding environment and mitigate potential visual impacts.

Some 221 ha of land has been rehabilitated at Wilpinjong Coal Mine (WCPL, 2015). An additional 79 ha is scheduled to be rehabilitated in 2015 (WCPL, 2015).

The backfilled mine voids would, over time, vary in appearance from freshly placed waste rock to rehabilitated landforms, complete with topsoil and vegetation (i.e. either pasture or woodland).

As such, the level of visual modification created by the backfilled mine voids would change, reducing as vegetation becomes established and matures.

4.1.5 Night-Lighting

Night-lighting at the Wilpinjong Coal Mine is currently emitted from the following sources:

- stationary work lights;
- mobile equipment and work vehicle-mounted lights; and
- infrastructure areas (e.g. materials handling conveyors).

Direct views of night-lighting sources occur from Ulan-Wollar Road. Direct views of night-lighting from Wollar Road also occur but are more screened by intervening topography and vegetation. However, lighting on taller infrastructure such as the materials handling conveyors is visible.

The scale and intensity of night-lighting for the Project would be similar in intensity to the existing night-lighting at the Wilpinjong Coal Mine. Night-lighting sources would however extend into the open cut pit extension areas and Pit 8.

The potential impacts of night-lighting associated with the Project are discussed in Section 5.4.

5 ASSESSMENT OF POTENTIAL VISUAL IMPACTS

The following sub-sections present a visual assessment of the potential impacts associated with the Project.

5.1 METHODOLOGY

The potential visual impacts were assessed by evaluating the level of visual modification of the development in the context of the visual sensitivity of relevant surrounding land use areas (i.e. those areas from which the proposed development may be visible) (EDAW Australia, 2006). Levels of visual impact resulting from visual modification and sensitivity are illustrated in Table 1.

Table 1
Visual Impact Matrix

Visual Modification \ Viewer Sensitivity	H	M	L
H	H	H	M
M	H	M	L
L	M	L	L
VL	L	VL	VL

VL = Very Low
L = Low
M = Moderate
H = High

Source: EDAW Australia (2006).

5.1.1 Visual Modification

The degree of visual modification of a proposed development is the contrast between the development and the existing visual landscape (including the approved mine landforms of the Wilpinjong Coal Mine). Throughout the visual catchment, the level of visual modification generally decreases as the distance from the development to various viewpoint locations increases, and is categorised as follows (EDAW Australia, 2006):

- Very low level of visual modification – where the development is distant and/or relates to a small proportion of the overall viewscape.
- Low level of visual modification – where there is minimal visual contrast and a high level of integration of form, line, shape, pattern, colour or texture values between the development and the landscape. In this situation the development may be noticeable, but does not markedly contrast with the existing modified landscape.
- Moderate level of visual modification – where a component of the development is visible and contrasts with the landscape, while at the same time achieving a level of integration. This occurs where surrounding topography, vegetation or existing modified landscape provide some measure of visual integration or screening.
- High level of visual modification – where the major components of the development contrast strongly with the existing landscape.

5.1.2 Visual Sensitivity

Visual (viewer) sensitivity is a measure of how critically a change to the existing landscape would be viewed from various use areas, where different activities are considered to have different sensitivity levels. Visual sensitivity can therefore be described as a function of both land use and duration of exposure (EDAW Australia, 2006). For example, individuals would generally view changes to the visual setting of their dwelling more critically than changes to the visual setting of the broader setting in which they travel or work (EDAW Australia, 2006). An additional factor is the extent to which the viewer has become accustomed to significant modifications to the landscape and existing industrialisation in the region (EDAW Australia, 2006).

The visual sensitivity of the development depends on a range of viewer characteristics. The primary characteristics used in this visual assessment are land use and the distance to the Project (i.e. visual sensitivity decreases as the distance to the Project increases). These characteristics were assessed from the perspective of the viewer and visibility from critical viewpoints.

The extent to which the viewer has become accustomed to the Wilpinjong Coal Mine which is an existing/approved modification to the landscape has also been considered.

Typical visual (viewer) sensitivity levels are defined in Table 2.

Table 2
Typical Visual (Viewer) Sensitivity Levels

Use Area	Foreground (Local Setting)		Middleground (Sub-Regional Setting)		Background (Regional Setting)
	0 - 0.5 km	0.5 - 1 km	1 - 2.5 km	2.5 - 5 km	> 5 km
Natural Area – Recreation	H	H	H	M	L
Residential – Rural	H	H	H	M	L
Residential – Township	H	H	H	M	L
Tourist Roads	H	M	M	L	L
Other Main Roads	M	L	L	L	L
Local Roads	L	L	L	L	L
Industrial Areas	L	L	L	L	L

Source: After EDAW Australia (2006).
Note: H - High, M – Moderate, L – Low.

For the purposes of this visual assessment, visual sensitivity was classified using the relevant land use and distance from the nearest Project landform generally in accordance with Table 2.

5.2 IDENTIFICATION OF SENSITIVE VISUAL SETTINGS

Locations with potential views of the Project are largely limited to those that already have views of the Wilpinjong Coal Mine. Potential views of the Project may be available from the following locations:

- sections of Ulan-Wollar Road located to the north of the Project;
- sections of Wollar Road located to the south of the Project;
- sections of the Sandy Hollow Gulgong Railway looking south towards the Project; and
- isolated proximal areas of the heavily vegetated Goulburn River National Park and the Munghorn Gap Nature Reserve to the north and south-west of the Project, where vegetation and topography permit (e.g. escarpment areas).

As the Sandy Hollow Gulgong Railway is predominantly used by coal trains (i.e. passenger trains are not known to use the line), it is not considered to be a relevant viewpoint and has not been considered further in this assessment.

A review of walking tracks published in the online visitor guides for the Munghorn Gap Nature Reserve and Goulburn River National Park (NSW National Parks and Wildlife Services, 2014) identified no public access routes leading to areas of the Goulburn River National Park or Munghorn Gap Nature Reserve that directly overlook the Project area. These areas are therefore neither routinely accessed by the public, nor are they readily accessible to the public. Given the above, the Goulburn River National Park and the Munghorn Gap Nature Reserve are not considered to be relevant viewpoints and have not been considered further in this assessment.

No views of the Project from the Village of Wollar or any other privately owned dwelling are anticipated, due to the extensive land ownership of Peabody Energy and other local resource companies (Figure 3) and the undulating topography and presence of remnant vegetation.

5.3 IMPACT ASSESSMENT

This section assesses potential visual impacts that are expected to arise as a result of the Project based on the methodology described in Section 5.1.

Visual simulations (Figures 12 to 14) have been created for the locations identified in Table 3 and shown on Figure 4.

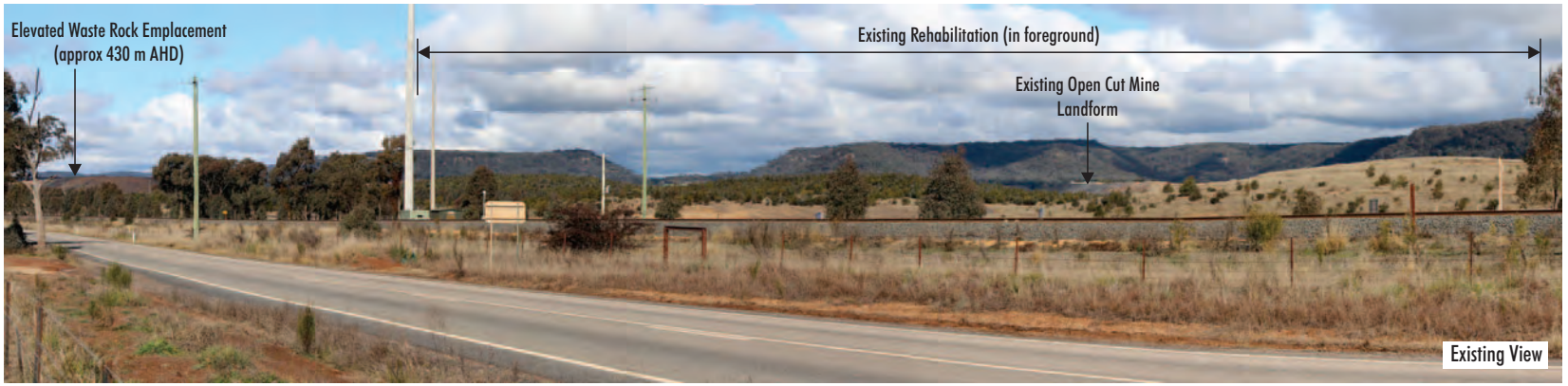
Table 3
Locations of Visual Simulations

Visual Simulation Location	Potential View of Project Landforms	Simulation Year	Simulation Figure
Ulan-Wollar Road (1)	South-easterly view towards Pits 1 and 2 (including elevated waste rock emplacement).	8	Figure 12
Ulan-Wollar Road (2)	South-easterly view towards the Pit 3/8 haul road cutting and Pits 3 and 8.	8	Figure 13
Wollar Road	North-westerly view over cleared agricultural land towards Pit 2 (including the elevated waste rock emplacement) and relocated TransGrid 330 kV ETL. It is noted that vegetation associated with Environment and Conservation Area A has conservatively not been included in the post-mining simulation.	8	Figure 14

Visual simulations (Figures 12 to 14) were prepared to show the existing views as well as simulations of the Project landforms during the stage of the Project when the greatest potential visual impact would occur at that viewpoint. A post-rehabilitation simulation was also developed to illustrate the conceptual landform following completion of mining and rehabilitation activities.

5.3.1 Visual Impacts – Regional Setting (> 5 km)

Due to undulating topography and intervening vegetation, no relevant viewpoints identified in the regional setting would have significant views of the Project. In addition, any incremental visual impacts in the regional setting as a result of the Project are likely to be insignificant. The potential visual impact of the Project on the regional setting is considered to be very low.



Source: WCPL (2015); Marc and Co (2015)

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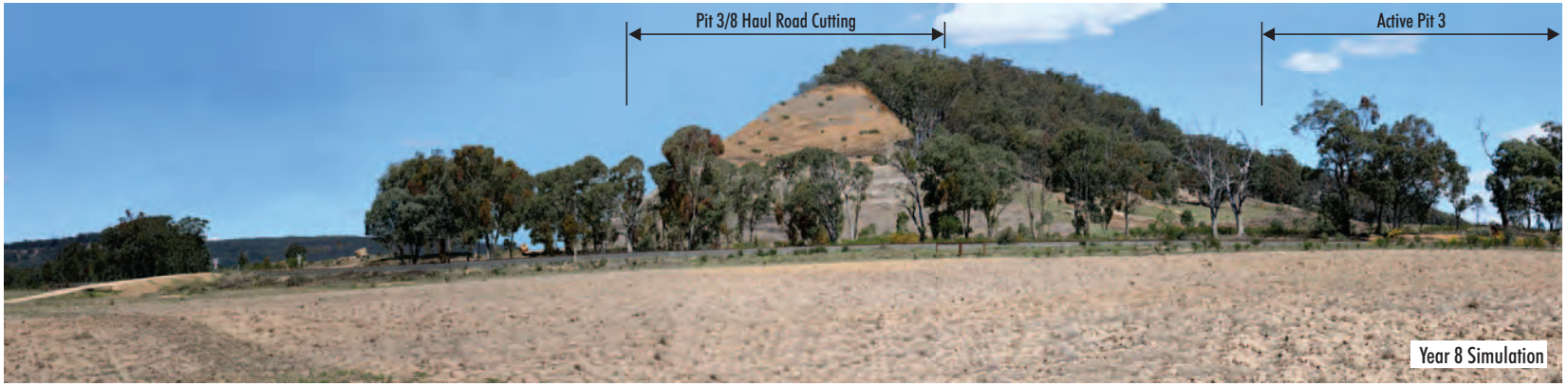
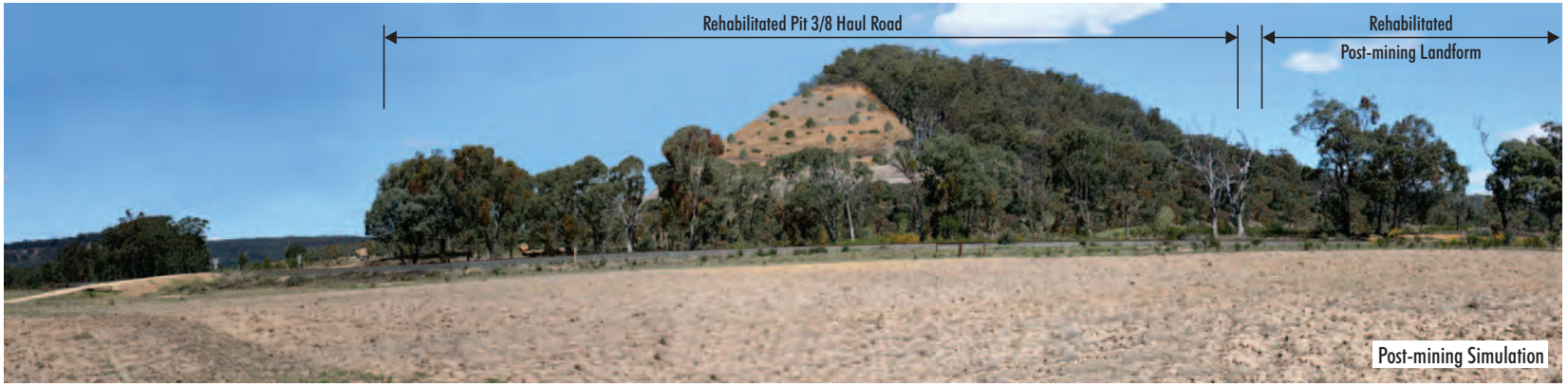
WILPINJONG EXTENSION PROJECT

Existing View and Visual Simulations
Ulan-Wollar Road (1) Viewpoint

Figure 12





Source: WCPL (2015); Marc and Co (2015)

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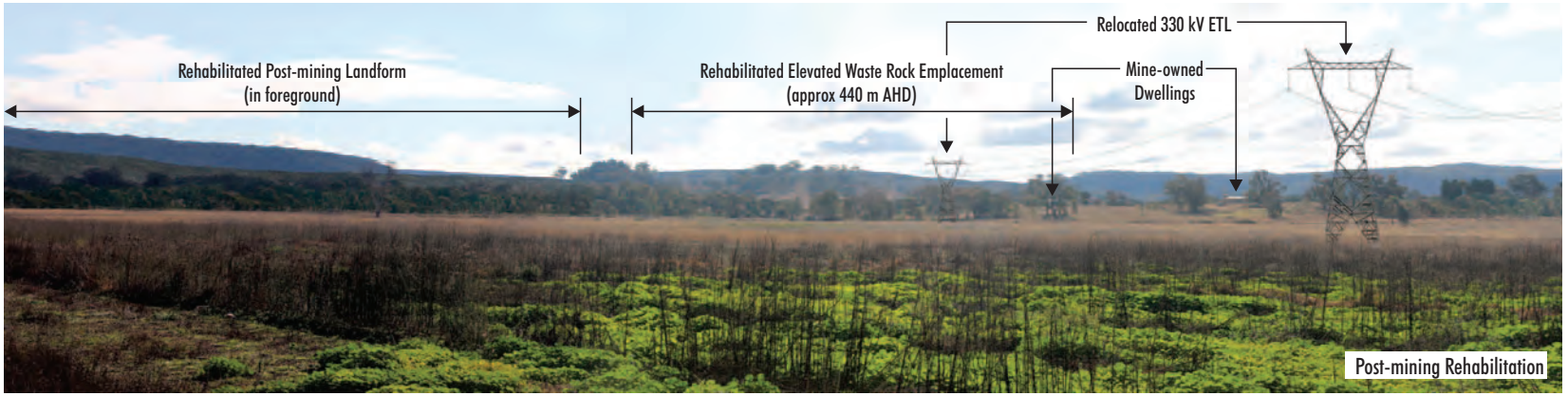
WILPINJONG EXTENSION PROJECT

Existing View and Visual Simulations
Ulan-Wollar Road (2) Viewpoint

Figure 13



Source: WCPL (2015); Marc and Co (2015)

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WILPINJONG EXTENSION PROJECT

Existing View and Visual Simulations
Wollar Road Viewpoint

Figure 14

5.3.2 Visual Impacts – Sub-Regional Setting (1 to 5 km)

No relevant viewpoints in the sub-regional setting would have significant views of the Project due to undulating topography and intervening vegetation. In addition, any incremental visual impacts in the sub-regional as a result of the Project are likely to be insignificant. The potential visual impact of the Project on the sub-regional setting is considered to be very low.

5.3.3 Visual Impacts – Local Setting (< 1 km)

A number of viewing locations are located within the local setting (refer to description below). The potential visual impacts of the Project on the local setting are described below and visual simulations are shown on Figures 12 to 14.

Ulan-Wollar Road

Views of the Project landforms and supporting mine infrastructure would be available from sections of Ulan-Wollar Road, where roadside vegetation, topography and perimeter bunds/vegetation screens permit.

Visual simulations were prepared for two locations along Ulan-Wollar Road (Table 3). The Ulan-Wollar Road (1) viewpoint (Figure 12) was selected as it is considered to be representative of typical potential views of the Project along Ulan-Wollar Road. The Ulan-Wollar Road (2) viewpoint (Figure 13) was selected as it includes views towards the Pit 3/8 haul road cutting (that would remain as a permanent landscape feature) and Pits 3 and 8.

Level of Visual Modification

The potential visual impact on users of Ulan-Wollar Road would result from increased views of open cut workings and supporting mine infrastructure due to the proposed extension to open cut areas and associated supporting mine infrastructure.

The open cut extension areas would change local topography and the contrast in colour and texture between the surrounding undisturbed areas and the disturbed open cut workings and backfilled waste rock.

Limited views of new supporting infrastructure (e.g. satellite ROM pads and satellite mine infrastructure areas) are expected from sections of Ulan-Wollar Road, however due to intervening topography, bunding and vegetation, these would generally be intermittent or partial views.

These open cut extension areas (including Pit 8) and associated supporting mine infrastructure would be very similar in nature to the existing Wilpinjong Coal Mine.

However, the existing Pit 3 haul road would be extended to access the north-west corner of Pit 8 at the commencement of mining. Construction of this road would involve development of a cutting on the northern point of the ridgeline separating Pits 3 and 8. This cutting would be visible from eastern sections of Ulan-Wollar Road and would be a permanent landscape feature. It is noted that as rock outcrops along ridges and escarpments are common in the vicinity of the Project, the viewer would be accustomed to views of some exposed rock in the landscape.

The Project would not change the maximum visual modification associated with the approved elevated waste rock emplacement, as the Project would not change the footprint or the approved maximum elevation of the elevated waste emplacement.

In the context of the approved Wilpinjong Coal Mine, the Project would contribute to a moderate level of visual modification along Ulan-Wollar Road.

Viewer Sensitivity

Within the local setting, the visual sensitivity of users of Ulan-Wollar Road (a local road [GTA Consultants, 2015]) would be low. This is largely due to the changing temporal and directional views experienced by users of Ulan-Wollar Road, in which the exposure to the modified views is confined to a relatively short period of time and a limited number of users.

Visual Impact

For users of Ulan-Wollar Road, the moderate level of visual modification coupled with the low level of visual sensitivity indicates a low level of potential visual impact would be expected. Following final rehabilitation, the level of potential visual impact associated with the Project at Ulan-Wollar Road would reduce to very low at the Ulan-Wollar Road (1) viewpoint. The level of visual impact at Ulan-Wollar Road (2) would remain low as the Pit 3/8 haul road cutting would remain as a permanent landscape feature.

Wollar Road

Level of Visual Modification

Views of the Project landforms would be available from sections of Wollar Road, where roadside vegetation, topography and perimeter bunds/vegetation screens permit. The potential visual impact on users of Wollar Road would result from increased views of open cut workings due to the proposed extension to open cut areas, the elevated waste rock emplacement and the relocated TransGrid 330 kV ETL that would traverse the Cumbo Creek valley (Figure 11).

Although the relocated section of the TransGrid 330 kV ETL would be in a new location, it is already a feature of the local and sub-regional settings (Section 2.1) and therefore the viewer would be accustomed to this infrastructure.

Pit 8 (approximately 300 ha) would partially increase the visibility of the open cut workings from Wollar Road. However, views would be limited by the construction of a perimeter bund and/or vegetation screen along the southern extent of Pit 8, and therefore this potential view was not considered as a visual simulation location.

The Project would not significantly change the maximum visual modification associated with the approved elevated waste rock emplacement as the Project would not change the footprint or maximum elevation of the emplacement.

The open cut extension areas would change local topography and result in the contrast in colour and texture between the surrounding undisturbed areas and the disturbed open cut workings and backfilled waste rock. With the above management measures, the Project would contribute to a low level of additional visual modification from Wollar Road.

Viewer Sensitivity

Within the local setting, the visual sensitivity of users of Wollar Road (a main road [GTA Consultants, 2015]) would be low to moderate. This is largely due to the limited locations where views of the Project landforms would be available and the changing temporal and directional views experienced by users of Wollar Road, in which the exposure to the modified views is confined to a relatively short period of time and a limited number of users.

Visual Impact

For users of Wollar Road, the low level of visual modification coupled with the low to moderate level of visual sensitivity indicates a low level of potential visual impact would be expected. Following final rehabilitation, the level of potential visual impact associated with the Project at Wollar Road would reduce to very low.

5.4 NIGHT-LIGHTING

Direct views of night-lighting sources at the Wilpinjong Coal Mine occur from Ulan-Wollar Road. Direct views of night-lighting from Wollar Road are more screened by intervening topography and vegetation, however, lighting on taller infrastructure such as the materials handling conveyors is visible.

The scale and intensity of night-lighting for the Project would be similar in intensity to the existing night-lighting at the Wilpinjong Coal Mine. Night-lighting sources would however extend into the open cut pit extension areas and Pit 8. In addition, the Project would include an increase in the number of mobile equipment.

Consequently there would be a potential increase in night-lighting impacts associated with night-glow and mobile vehicle-mounted lights. There would be increased potential for direct views of mobile equipment lights and operational lighting to be available from additional sections of Ulan-Wollar Road and Wollar Road due to the extensions of open cut pits and the increased number of mobile equipment.

Notwithstanding the above, the nature of the night-lighting for the Project would be similar to the existing night-lighting at the Wilpinjong Coal Mine and the change in potential night-lighting impacts would be minor.

5.5 CUMULATIVE IMPACTS

This assessment of potential cumulative visual impacts considers the combined effects of the Project with the effects of the Moolarben Coal Complex. Other mining projects in the area (e.g. Ulan Mine Complex) are considered to be located too far away from the Project to have any significant cumulative visual impact with the Project.

It is expected that views of both the Project (Pits 5 and 6) and the Moolarben Coal Complex would generally be only available from viewpoints from the northern side of the Project along Ulan-Wollar Road. No simultaneous views of the Moolarben Coal Complex and Pit 8 would be available due the intervening ridgeline located between the existing Wilpinjong Coal Mine and Pit 8. Simultaneous views of both projects would be limited by intervening topography and vegetation and the exposure to the simultaneous views would be confined to a relatively short period of time and a limited number of users.

The potential night-lighting impacts associated with the Moolarben Coal Complex and the Project would be of a similar level to that of the currently approved Moolarben Coal Complex operations and the change in potential night-lighting impacts for the Project would be minor. The Project is therefore not expected to result in significant cumulative night-lighting impacts.

Given the above, it is expected that the potential cumulative visual impacts as a result of the Project and the Moolarben Coal Complex are considered to be low.

5.6 SUMMARY OF IMPACTS

Overall the Project is expected to result in very low to low visual impacts at relevant sensitive receivers (Section 5). This is the same level of impact assessed for the previous visual assessments for the Wilpinjong Coal Mine (i.e. the Project would not result in any significant change to visual impacts associated with the Wilpinjong Coal Mine, rather these impacts would be similar in nature but extended over time).

A summary of the visual assessment locations analysed in the following sub-sections is provided in Table 4.

Table 4
Summary of Visual Assessment

Location	Visual Sensitivity	Visual Modification Level	Potential Impact*	Potential Impact After Rehabilitation
Ulan-Wollar Road (1)	L	M	L	VL
Ulan-Wollar Road (2)	L	M	L	L
Wollar Road	L – M	L	L	VL

* Methodology described in Section 5.1.

H – High, M – Moderate, L – Low, VL – Very Low.

6 MITIGATION MEASURES AND MANAGEMENT

6.1 PROGRESSIVE REHABILITATION AND REVEGETATION

Progressive rehabilitation of Project landforms would be undertaken in order to reduce the contrast between the Project landforms and the surrounding environment. This would include progressive rehabilitation with selected tree and pasture species (endemic where practicable).

The Project final landform has been designed to integrate where practicable with the adjoining natural landforms.

6.2 VISUAL SCREENING

WCPL would maintain the following existing measures implemented to minimise potential visual impacts at the Wilpinjong Coal Mine (Section 3) for the Project:

- The use of perimeter bunds and/or vegetation screens along select pit boundary areas.
- A tree screen that has been established along the east-west section of Wollar Road to the south of the Wilpinjong Coal Mine.
- Trees established along the mine access road.
- Mine areas are rehabilitated as soon as practicable following disturbance.
- Temporary rehabilitation of the elevated waste rock emplacement will occur following construction (e.g. with aerial seeding).

In addition, overburden material would be placed along selected boundary areas of each Project open pit to act as a safety bund (i.e. to prevent accidental access). In some areas these bunds (particularly if vegetated) would assist in reducing direct views to open cut workings from publicly accessible locations. Bunds would be constructed up to 3 m above the existing surface level and would remain as a permanent landscape feature or be integrated into the rehabilitated final landforms.

In particular, a perimeter bund and/or vegetation screen would be constructed at the southern extent of Pit 8 to restrict access and reduce views of the active open pit development areas (and ultimately the final void) from Wollar Road. The bund would be up to approximately 3 m in height and may be progressively vegetated with shrubs and trees to screen views of Pit 8.

In addition, existing remnant vegetation along Ulan-Wollar Road and Wollar Road would continue to be maintained where practicable to minimise views of the Project from these roads.

6.3 NIGHT-LIGHTING CONTROLS

All external lighting at the Project would be operated in accordance with Australian Standard 4282 (INT) 1995 – *Control of Obtrusive Effects of Outdoor Lighting*.

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