



Planning

MAJOR PROJECT ASSESSMENT: *Charbon Coal Project 08_0211*



Director-General's
Environmental Assessment Report
Section 75I of the
Environmental Planning & Assessment Act 1979

September 2010

Cover photograph: Sedimentation basin located within an existing rehabilitation area at Charbon Colliery (June 2009).

© Crown copyright 2010
Published September 2010
NSW Department of Planning
www.planning.nsw.gov.au

Disclaimer:

While every reasonable effort has been made to ensure that this document is correct at the time of publication, the State of New South Wales, its agents and employees, disclaim any and all liability to any person in respect of anything or the consequences of anything done or omitted to be done in reliance upon the whole or any part of this document

EXECUTIVE SUMMARY

Charbon Coal Pty Limited (Charbon) operates the Charbon Colliery near Kandos, about 50 kilometres southeast of Mudgee, in the Mid Western Local Government Area.

Under its existing development consents, Charbon is allowed to extract up to 1.3 million tonnes of coal a year, using both open cut and underground (bord and pillar) mining methods. This coal is processed on site before being trucked to nearby lime and cement works and the Wallerawang and Mount Piper power stations near Lithgow or railed to export markets.

Charbon proposes to extend both its open cut and underground mining operations. The proposal involves extracting up to 5.2 million tonnes of additional coal from five small, new open cut pits and a small new underground mine (the Western Underground) at a rate of up to 1.5 millions tonnes of coal a year. Consistent with current operations, this coal would be processed on site before being transported to domestic or export markets.

The proposal requires the Minister's approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act), but must be determined by the Planning Assessment Commission because Charbon has made reportable political donations.

During the exhibition period, the Department received 47 submissions on the proposal, including 6 from public authorities. Thirty of those submissions objected to the proposal, raising a broad array of concerns about potential noise, dust, water, biodiversity and traffic impacts.

The Department has assessed the project application, Environmental Assessment, submissions received and Charbon's Response to Submissions, in accordance with the requirements of the EP&A Act, and considers the key issues to be noise, air quality, biodiversity and transport impacts.

Noise levels generated by the proposal would be within accepted environmental limits, except at two nearby residences. The Department has recommended conditions of approval to set noise limits according to relevant guidelines as well as requiring Charbon to reduce mining operations under noise-enhancing meteorological conditions. Additional conditions allow impacted residences to request noise audits, mitigation works and acquisition, if required.

Air quality impacts would be significantly increased at one residence. The Department notes the air quality impact assessment was conservative, and exceedances at the residence are associated with short-term coal extraction. The Department has recommended conditions that require the company to monitor and suppress dust impacts, and to reduce operations if air quality exceedances occur. Additional conditions allow impacted landowners to request mitigation works or acquisition, if required.

The project would clear native vegetation and would disturb a threatened flora species, an ecologically endangered community and the habitat of several threatened fauna species. To offset this disturbance, Charbon proposes a biodiversity offset, which would include a representative area of the ecologically endangered community. The Department and relevant state agencies are satisfied with the proposed offset. In addition, the Department has recommended that Charbon be required to manage the impacts of vegetation clearing on fauna and their habitat, as well as progressively rehabilitating the site.

Coal haulage associated with the project may involve up to 120 laden trucks per day from the Colliery. To manage and mitigate this potentially significant impact, the Department has recommended conditions of approval requiring Charbon to pay appropriate road maintenance fees, upgrade and utilise Charbon Road, contribute to the upgrade of Carwell Creek Bridge, undertake a road safety audit, and to prepare a Transportation Management Plan to manage traffic impacts.

Finally, the Department is satisfied that the project would generate a number of social and economic benefits by providing continued employment for 138 full-time employees and 5 part-time employees and affordable coal products for local industry and power generation. Other benefits include the contribution from the sale of the resource and social and economic benefits including flow-on regional economic benefits, and royalty and tax income. On balance, the Department is satisfied that the project's benefits outweigh any residual costs, and that it is in the public interest. Consequently, the project should be approved, subject to conditions.

1. PROPOSED PROJECT

1.1 Project Description and Background

Charbon Coal Pty Limited (Charbon) is the operator of Charbon Colliery. Charbon Colliery is a joint venture between Centennial Coal Company Limited (Centennial) and SK Energy Australia Pty Ltd (a wholly owned subsidiary of SK Corporation Korea). Charbon is proposing to continue its existing coal extraction and processing operation off Coopers Road, Charbon, approximately three kilometres (km) south of Kandos, which is about 50 km southeast of Mudgee in the Mid Western Regional Local Government Area (see Figure 1).

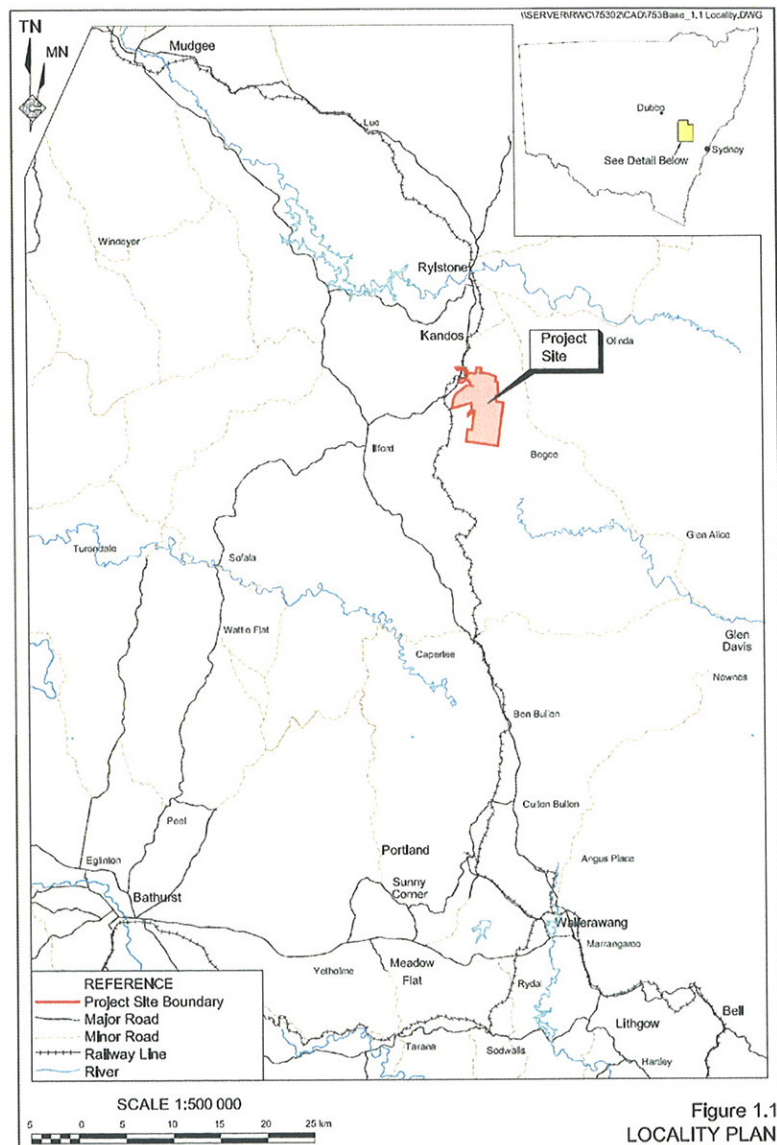


Figure 1: Project Location.

Coal mining has taken place at the site since 1920. The Colliery was upgraded in 1985 to include a rail loop, coal handing and preparation plant (CHPP) and an increased production rate. In 1994 Centennial purchased the Colliery from Blue Circle Southern Cement Ltd. The Colliery currently operates under six existing approvals. Three were granted by the Minister in 1985, 1993 and 2003 and three were granted by Rylstone Council in 1995, 1999 and 2002. The current approvals allow extraction of up to 1.3 million tonnes per annum (Mtpa) of coal by open cut and underground (bord and pillar) methods, processing at the CHPP, transport by road and rail to market, placement of reject material within an existing emplacement area, use of existing facilities and progressive rehabilitation of the site. The proposal is known as the Charbon Coal Project (the project). The major components of the project are summarised in Table 1, and depicted in Figure 2.

Table 1: Major components of the proposed project

Aspect	Proposal Description
Project Summary	Increased coal production from 5 small, new open cut pits and a small new underground mine (the Western Underground) and from expansion of the existing southern open cut, including: • extracting up to 5.2 million tonnes (Mt) of coal; • extracting and processing of up to 1.5 Mtpa run-of-mine (ROM) coal; • transporting a up to 1.5 Mtpa of product coal by rail, up to 250,000 tonnes per annum (tpa) by public road and up to 25,000 tpa by private haul road; • expanding and upgrading existing mine facilities and environmental control structures; • rehabilitating the site; and • consolidating of all existing development consents for the Colliery.
Total Site Area	2,262 hectares (ha).
Open Cut Pits	Southern Extension (15 ha), Central (12 ha), 8 Trunk (32 ha), Western (6.5 ha), Southern Outlier (13 ha) and Western Outlier (9 ha).
Total Resource	5.2 Mt (1.5 Mt within proposed underground and 3.7 Mt within proposed open cut pits).
Production	Up to 1.5 Mtpa.
Project Life	Between 7 and 15 years, depending on annual production levels.
Extraction Method	Rip, load and haul extraction methodology for all open cut pits except the Southern Open Cut Extension, which would utilise drill and blasting techniques. The Western Underground would utilise bord and pillar mining (first workings only).
Processing	ROM coal is processed at the CHPP, where it is crushed, placed through a screen and passed through a series of dense medium cyclones and fine spirals to produce a washed coal product and a coarse and fine reject.
Transport	Transportation of up to 1.5 Mtpa of product coal by rail, up to 80,000 tpa by public roads to local industry and up to 250,000 tpa to local Power Stations and up to 25,000 tpa by private road to local industry. The total coal transported by public road would not exceed 250,000 tpa.
Stockpiles	One existing 15,000 tonne CHPP ROM coal stock pile (maximum height 12 m), one existing 80,000 tonne product coal stockpile (maximum height 20 m) and one proposed 10,000 tonne ROM stockpile at the Western Underground facilities.
Facilities	Construction of three pollution control dams, western underground surface facilities, new haul road and additional ROM loading facilities.
Main Products	Processed and washed thermal coal for domestic and international markets and ROM coal for use in the local production of cement and lime.
Final Land Form and Use	Rehabilitation would be undertaken progressively at the open cut pits whilst mining occurs. The aim would be to rehabilitate the site in accordance with its pre-mining land capability to create a stable, undulating landscape with suitable habitat for endemic species.
Employment	Continued employment for a full-time staff equivalent of 138 employees and 5 part-time employees.
Capital Investment Value	\$8 million.
Hours of Operation	• Processing, rail product loading, rail transportation, maintenance and underground extraction – 24 hours per day, seven days a week; • Product dispatch by road – 7:00 am to 10:00 pm, 7 days a week; • Blasting – limited to 9:00 am to 5:00 pm Monday to Friday; • Open cut operations – 7:00 am to 8:00 pm Monday to Friday and 7:00 am to 6:00 pm Saturday. In Autumn 7:00 am to 6:00 pm Monday to Friday; and • Initial clearing works and rehabilitation – 7:00 am to 5:00 pm Monday to Saturday.

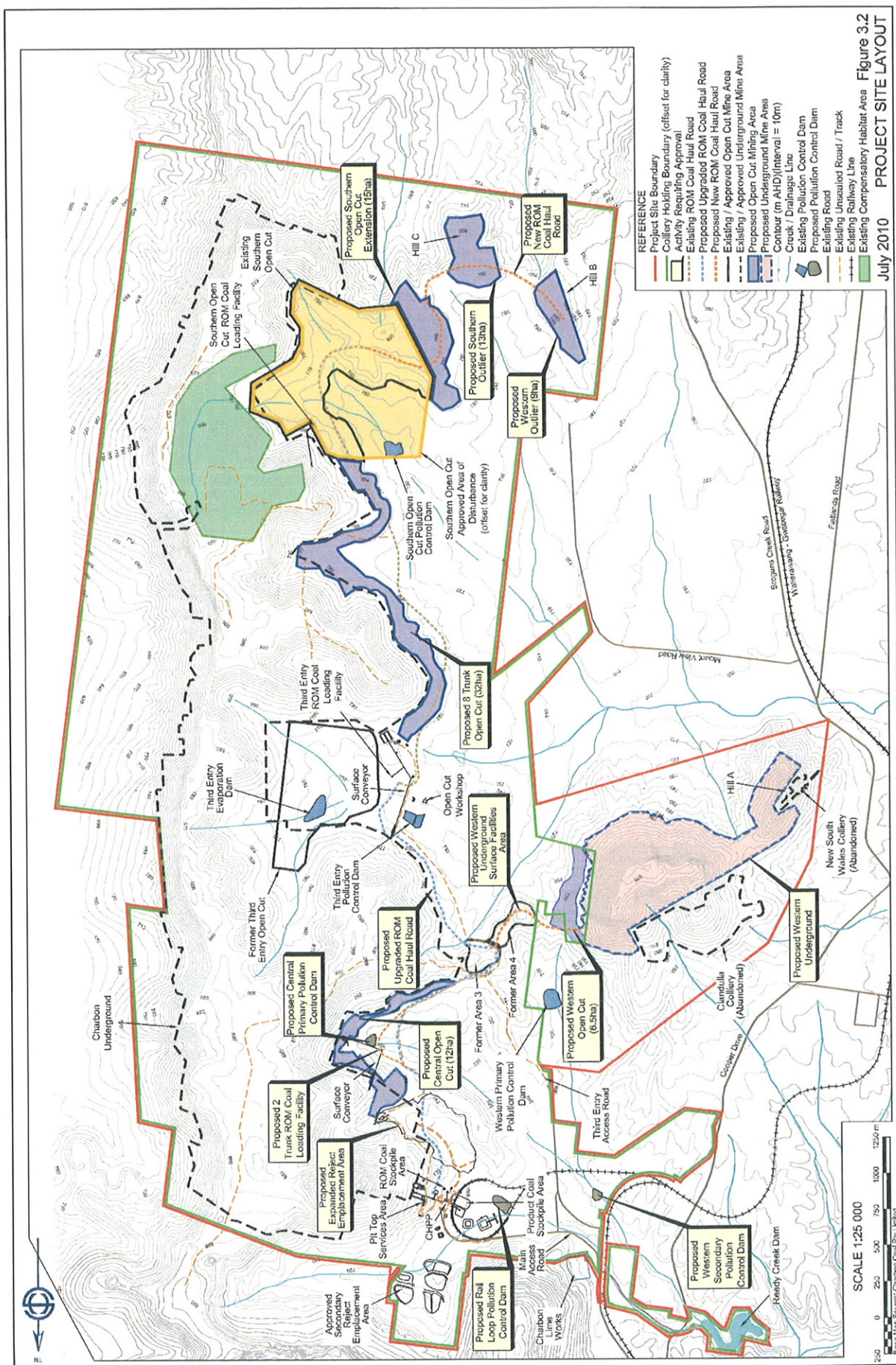


Figure 2: Existing and proposed site layout and extraction areas.

Charbon modified some aspects of the project following exhibition of the project's Environmental Assessment (EA) by including in its Response to Submissions:

- a biodiversity offset strategy (BOS);
- limits on hours of operation for open cut pits to 8 pm, Monday to Friday; and
- a Statement of Commitments (see Appendix B).

This assessment report is based on the project description set out in the EA and as amended by Charbon's Response to Submissions, dated March 2010 (see Appendix C).

1.2 Project Setting

The prominent feature of the project site is a north-south orientated ridgeline which is a section of the Great Dividing Range. The ridge dominates the eastern portion of the site and the Kandos State Forest occupies most of the ridge and adjoining slopes. The new underground mine would be located underneath Haystack Mountain, which is a regionally significant landscape feature. The proposed new open cut pits would be located on the slopes and valley floor to the west of the ridge. Charbon village is located north of the project boundary and the village of Clandulla is located to the west, behind Haystack Mountain, while the town of Kandos is located approximately 3 km to the north. There are five non-project related residences within approximately 500 m of proposed open cut pits.

1.3 Project Need

Charbon has identified a high quality thermal coal resource of 5.2 Mt. Charbon intends to sell the washed product to domestic and international markets, while ROM coal would be sold to local industry such as the Kandos Cement Plant and the Charbon Lime Works. The project would contribute to the security of domestic and international energy supplies, while providing an essential key energy source to local industry at low transport cost.

The project would provide continued employment for 138 full-time employees and 5 part-time employees. Additionally, Kandos Cement Plant and Charbon Lime Works, which are reliant on affordable local coal products, employ approximately 100 and 28 people respectively. Other benefits include the contribution from the sale of the resource over the life of the project, and long-term social and economic benefits including flow-on regional economic benefits, coal royalty and tax income.

2. STATUTORY CONTEXT

2.1 Major Project

The proposal is classified as a major project under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act), as it is development for the purpose of coal mining and therefore meets the criteria in clause 5 of schedule 1 of *State Environmental Planning Policy (Major Development) 2005*. The Minister for Planning is consequently the approval authority for the project. However, as reportable political donations were made by the proponent, the Planning Assessment Commission must determine the project under the Minister's delegation of 18 November 2008.

2.2 Permissibility

The project lies within the Mid-Western Regional Local Government Area (LGA), which was formed following the merger of the Rylstone, Merriwa and Mudgee LGAs. A draft local environment plan has been prepared for the Mid-Western Regional LGA, but at present it applies only to the former Mudgee LGA. As a result, the *Rylstone Local Environment Plan 1996* (Rylstone LEP) applies to the project area. The project area is zoned 1(a) General Rural under the Rylstone LEP, and coal mining is permissible with consent in this zone. Therefore, the project is permissible with consent.

2.3 Exhibition and Notification

Under Section 75H(3) of the EP&A Act, the Director-General is required to make the EA for a project publicly available for at least 30 days. After accepting the EA for the project, the Department:

- made the EA publicly available from Friday 13 November until Friday 18 December 2009:
 - on the Department's website;
 - at the Department's Information Centre, Mid-Western Regional Council's offices and the Nature Conservation Council;
- notified relevant State government authorities and Council by letter; and
- advertised the exhibition in the *Mudgee Guardian* and the *Mudgee Weekly*.

This satisfies the requirements in Section 75H(3) of the EP&A Act.

2.4 Environmental Planning Instruments

Under Sections 75I(2)(d) and 75I(2)(e) of the EP&A Act, the Director-General's report for a project is required to include a copy of, or reference to, the provisions of any State Environmental Planning Policy (SEPP) that substantially governs the carrying out of the project, and the provisions of any environmental planning instrument (EPI) that would (except for the application of Part 3A) substantially govern the carrying out of the project and that have been taken into consideration in the assessment of the project.

The Department has considered the project against the relevant provisions of relevant SEPPs and other EPIs, and is satisfied that none of these instruments substantially govern (or would, but for Part 3A substantially govern) the carrying out of this project.

Nevertheless, the Department has included a consideration of applicable EPIs in Appendix F including:

- Rylstone LEP;
- SEPP (Major Development) 2005;
- SEPP (Mining, Petroleum Production and Extractive Industries) 2007 (Mining SEPP);
- SEPP (Infrastructure) 2007;
- SEPP No. 33 – Hazardous and Offensive Development (SEPP 33);
- SEPP No. 44 – Koala Habitat Protection (SEPP 44); and
- SEPP No. 55 – Remediation of Land (SEPP 55).

2.5 Objects of the *Environmental Planning and Assessment Act 1979*

The Minister is required to consider the objects of the EP&A Act when making decisions under the Act. These objects are detailed in Section 5 of the Act, and include:

'The objects of this Act are:

- (a) *to encourage:*
 - (i) *the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,*
 - (ii) *the promotion and co-ordination of the orderly and economic use and development of land,*
 - (iii) *the protection, provision and co-ordination of communication and utility services,*
 - (iv) *the provision of land for public purposes,*
 - (v) *the provision and co-ordination of community services and facilities, and*
 - (vi) *the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*
 - (vii) *ecologically sustainable development, and*
 - (viii) *the provision and maintenance of affordable housing, and*
- (b) *to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and*
- (c) *to provide increased opportunity for public involvement and participation in environmental planning and assessment.'*

The objects of most relevance to the Minister's decision on whether or not to approve this project are those under Section 5(a)(i), (ii), (vi) and (vii).

The Department is satisfied that the project encourages the proper use of resources and the promotion of orderly and economic use of land, particularly, as the mine has been a feature of the area for decades and supplies local industry with coal at affordable transport costs. In addition, coal mining is identified as permissible development on the project site under the Rylstone LEP. Environmental protection and protection of biodiversity are given full consideration in Section 4 of this report. The Department has considered the encouragement of ecologically sustainable development in its assessment of the project application. This assessment integrates all significant economic and environmental considerations and seeks to avoid any potential serious or irreversible damage to the environment, based on an assessment of risk-weighted consequences. Charbon has considered a number of alternatives to the proposed project, including the alternative of not proceeding.

2.6 Statement of Compliance

Under Section 75I of the EP&A Act, the Director-General's report is required to include a statement relating to compliance with the Director-General's environmental assessment requirements issued with respect to the project. The Department is satisfied that the environmental assessment requirements have been complied with.

2.7 Environmental Protection and Biodiversity Conservation Act

On 16 June 2010, the project was determined to be a "controlled action" under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), as it was considered likely that the proposal could have a significant impact on the critically endangered White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland ecological community, and would clear potential foraging habitat for the endangered and migratory Regent Honeyeater (*Anthochaera Phrygia*). Consideration of these matters is discussed in Section 4.2.

As the Commonwealth's decision was made late in the State's assessment process, a bilateral assessment of the project was not possible. Consequently, the Commonwealth Department of Environment, Water, Heritage and the Arts will undertake a separate assessment of the project.

3. ISSUES RAISED IN SUBMISSIONS

During the exhibition period, the Department received a total of 47 submissions on the project, six from public authorities, 39 from the general public and two from special interest groups. A summary of the issues raised in submissions is provided below. A full copy of the submissions is attached in Appendix D.

3.1 Public Authorities

The **Department of Environment, Climate Change and Water** (DECCW) does not object to the proposed project. However, DECCW raised initial concerns in relation to:

- *Biodiversity* – in particular that the project (as originally proposed) did not maintain or improve biodiversity values as it did not provide adequate mitigation or attempt to avoid areas of high conservation value;
- *Noise* – in particular that the noise assessment (as originally presented) used limited metrological background data to determine the likelihood of noise-enhancing metrological conditions;
- *Aboriginal Heritage* – in particular regarding effective consultation with the local community and its involvement in heritage surveys, and the adequacy of the survey methodology;
- *Air Quality* – in particular the absence of a direct calculation of the level of total suspended particulates (TSP) emissions that may impact on neighbouring residents, and concerns regarding dust mitigation methodology; and
- *Surface Water* – in particular potential impacts to receiving creek and drainage lines from proposed discharge volumes from the site, the sustainability of current irrigation of effluent, and the size and ability of sedimentation dams to manage dirty water.

DECCW's NSW Office of Water (NOW) does not object to the project. However, NOW raised concerns regarding water security for the project, due to uncertain licensing arrangements and assumptions in the site water balance calculations. NOW is also concerned about the limited analysis of data contained in the groundwater assessment and the reliability of estimates of likely inflows into the mine. However, as the mine is above the regional groundwater system, the proposal is considered to have a low risk of significantly impacting the regional groundwater system.

The **Department of Industry and Investment** (DII) does not object to the project but recommended detailed monitoring of subsidence, as well as highlighting the need for completion criteria for rehabilitation of the site and final landform management. DII notes that State Forests NSW owns the land for one proposed pit location and the consequential need for a compensation agreement with that agency under the *Mining Act 1992*.

The **Department of Transport and Industry** (DTI) does not object to the project, and made no recommendations.

Central West Catchment Management Authority (CMA) does not object to the project, but advised the project's assessment should be consistent with the requirements and targets of the gazetted Central West Catchment Action Plan.

Mid-Western Regional Council (Council) does not object to the proposal, however raised the following issues:

- *Transport* – in particular the potential impact of the project on road infrastructure and the need for a Voluntary Planning Agreement for financial contributions towards road maintenance and the upgrade of Carwell Creek Bridge. Council also raised concerns regarding the truck transport route from the mine to Kandos Cement Plant, citing that a shorter route is available;
- *Noise* – in particular the assessment and management of noise impacts, and concerns that the terms of the *Industrial Noise Policy 2000* do not adequately protect rural receivers from noise impacts; and
- *Biodiversity / Rehabilitation* – in particular the potential impact to biodiversity from clearing on the project site and the management of the rehabilitation of the mine.

3.2 Community and Special Interest Groups

Of the 39 submissions received from the community and two submissions from interest groups, 30 submissions objected to the project and 11 supported it. Amongst those submissions which objected, the main grounds for concern, in decreasing order of mention, were:

- *Air quality* – particularly air pollution from blasting and mining operations and the potential related health impacts;
- *Visual and local amenity* – concerns relating to views from affected properties and concerns regarding potential decreases in property values;
- *Groundwater / Springs* – concerns relating to mining operations impacting local aquifers and dewatering nearby springs and groundwater supplies;
- *Flora and fauna* – particularly the removal of Ecologically Endangered Communities (EECs);
- *Traffic / Roads* – concerns in relation to increased heavy vehicles on local roads and resultant road safety issues; and
- *Noise / Blasting* – particularly the potential for heavy vehicles and earthmoving to cause noise impacts to nearby residents, and blasting operations to cause increased noise and vibration impacts.

The 11 submissions that supported the project cited local jobs, contributions to community organisations and support of local industries as reasons to support the project.

4. ASSESSMENT

4.1 Noise

The noise impact assessment (NIA) for the project assessed potential noise impacts in accordance with the relevant DECCW guidelines.

Operational Noise

The NIA:

- assumed that sound power levels of the existing mobile plant and CHPP would be reduced by 3 dB(A) and 7 dB(A) respectively through implementation of additional noise mitigation measures;
- assumed there would be no open cut mining operations during night periods due to inversion conditions or during evening periods in Autumn when noise-enhancing winds are a feature of the site;
- assumed that all machinery on site (including train loading operations) was operating at the same time, which is unlikely to occur; and
- predicted noise impacts on nearby residences during Years 1, 4 and 7 of the project under both calm and adverse weather conditions.

The predicted exceedances of project specific noise levels (PSNLs) are summarised in Table 2, while Figure 3 depicts noise impacts for the worst-case operational scenario. Both DECCW and the Department consider the predictions to be reasonable. Charbon originally proposed to undertake open cut operations until 10 pm in all seasons except Autumn. This was of concern to the Department and DECCW as significant exceedances of PSNLs were predicted to occur if open cut operations took place during noise enhancing wind conditions and there was some uncertainty about the occurrence of such adverse weather conditions during Summer evening periods, due to limited background monitoring. To correct this uncertainty, the Department requested an investigation of the occurrence of noise enhancing winds using monitoring data from the on-site meteorological station. This investigation confirmed that noise-enhancing east-south-east winds are a feature of the site during the evening periods of Autumn months and after 8 pm in Summer

months. Consequently, Charbon committed to cease open cut operations by 6 pm in Autumn and by 8 pm at all other times, to ensure there are no open cut operations when noise enhancing winds feature at the site.

Table 2: Predicted PSNL exceedances.

Residence	Scenario 1		Scenario 2		Scenario 3			PSNL Day/ Evening / Night
	Evening	Night	Evening	Night	Day	Evening	Night	
M	-	-	-	-	36	37	-	35
P	36 ^w	36 ^w	39 ^w	39 ^w /39 ⁱ	-	39 ^w	39 ^w /37 ⁱ	35

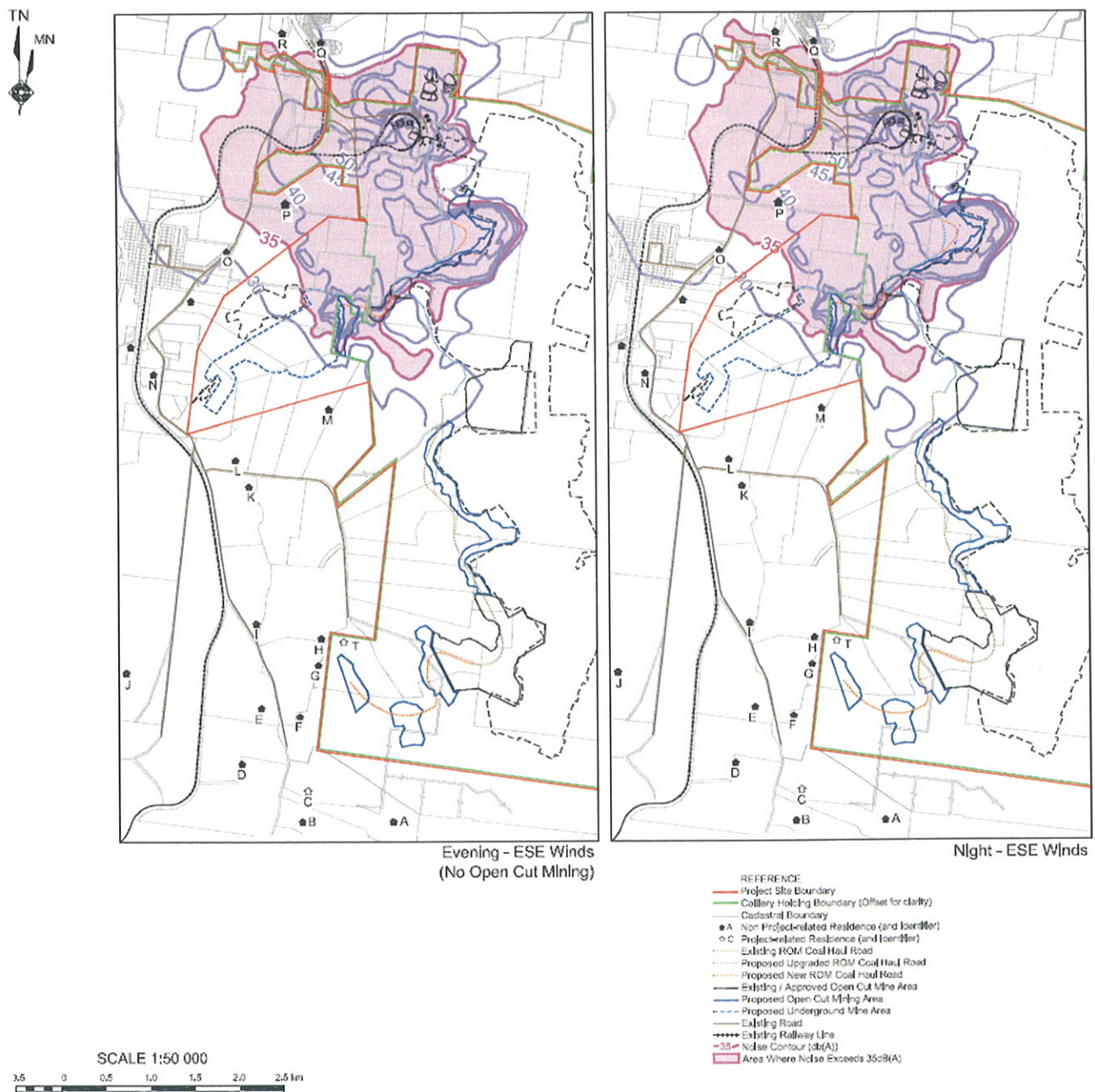
Notes: All noise levels measured as $L_{Aeq(15\text{ min})}$ dB(A).

w = noise-enhancing winds east-southeast;

i = inversion conditions;

- = no predicted exceedance of PSNL

The NIA suggested that minor exceedances of the PSNL criteria at property M would occur during the later years of the project, primarily due to activities in the 8 Trunk and Central open cut pits, and moderate exceedances of the criteria at property P during all years of the project under adverse weather conditions, principally due to the continued operations of the CHPP and Central open cut (refer Table 2 and Figure 3).



Despite extensive noise mitigation works being applied to mining equipment, noise impacts for residences located down wind are greatly increased when noise-enhancing winds (east-south-east) occur. The NIA, in accordance with DECCW's *Industrial Noise Policy 2000*, has considered the noise-enhancing winds to be a feature of the site when they occur more than 30% of the time. Charbon has subsequently committed to cease open cut operations during these times. However, these noise-enhancing winds could occur (albeit at less frequency) during open cut operations for any period. When noise-enhancing winds occur in conjunction with open cut operations, the predicted noise impacts are significant for a number of nearby residences.

Coal mining in the area has occurred since the 1920s and the CHPP and rail loop have been in operation since 1985. Therefore, the noise associated with the CHPP and rail loop could be considered a part of the established noise catchment. However, the Department's policy for residences which experience moderate exceedances of the PSNL (between 3-5 dB(A)), is that all reasonable and feasible noise mitigation should be undertaken at the source. Should exceedances still be experienced, then noise mitigation works should be undertaken at the residence or an agreement reached between the landholder and the mine to accept the noise impacts. If exceedances of the PSNL greater than 5 dB(A) systemically occur then the owner of the residence may request acquisition of the property.

Charbon has committed to preparing a Noise Management Plan (NMP) which would include a noise monitoring program to monitor noise emissions at sensitive receivers. The NMP would also contain measures to reduce noise and curtail operations when adverse meteorological conditions occur, as well as procedures for dealing with complaints. The Department considers it appropriate that Charbon monitor the occurrence of noise-enhancing winds and reduce and/or curtail operations when they occur. Given there is an existing meteorological monitoring station at the mine this should be achievable. The Department has also recommended conditions requiring Charbon to include detailed procedures for identifying noise-enhancing meteorological conditions using real-time meteorological data; and to include reactive noise control measures to manage noise impacts for sensitive receivers in the NMP.

The Department has recommended conditions of approval to set noise impact assessment criteria as:

- 39 dB(A) for evening and night periods at residence P;
- 36 and 37 dB(A) for day and evening periods respectively at residence M;
- 38 dB(A) for all time periods at residence Q and other residences within 150 m of this location; and
- 35 dB(A) for all other residences and for all other time periods at residences M and P.

The exceptions at residences M and P are based on the difficulty of complying with PSNL criteria (see Table 1). The Department considers this approach reasonable given the conservative nature of the NIA, that all reasonable and feasible noise management and mitigation measures would be undertaken by Charbon and that the predicted levels are < 5 dB(A) over the PSNLs. The criteria at residence Q reflect slightly higher rating background levels (RBLs) and a consequentially higher PSNL.

To ensure minimal noise impact to nearby receivers the Department has recommended conditions of approval to:

- cease open cut operations by 6 pm in Autumn and 8 pm in Summer (except Saturdays when open cut operations would cease at 6 pm all year and Sundays when no open cut operations occur);
- set operational noise impact criteria;
- implement noise mitigation works on mining equipment and ensure modelled sound power levels are achieved;
- implement a NMP which includes procedures for identifying noise-enhancing meteorological conditions using real-time meteorological data and reactive noise control measures to manage noise impacts for sensitive receivers;
- undertake noise monitoring at sensitive receivers to verify that the management protocols achieve the noise criteria at these residences;
- undertake noise mitigation works at residence P and any other property where monitoring indicates systemic exceedances of operational noise criteria by 3 dB(A) or more; and
- provide acquisition criteria and procedures for properties that experience exceedances of the PSNL by more than 5 dB(A) at a residence or on more than 25% of the property.

The Department is satisfied that with the implementation of these conditions, the operational noise from the project would have low and manageable impacts on nearby receivers.

Rail Noise

The mine has been transporting coal by rail since 1985. There would be no increase to the existing impact from the project to receivers along the rail line, as Charbon does not propose to increase the existing

maximum daily train movements. However, near Wallerawang, the pass-by noise criterion is predicted to be exceeded for four receivers who are closer than 31 m to the rail line, although all other rail noise criteria would be met. The number of trains leaving the site per day would not increase. Accordingly, train noise levels would not increase above existing levels which have occurred since 1985. Further, the noise model used to predict rail noise impact assumed all 8 allowable train movements from the mine and the cement works would pass these receivers within a 24 hour period. As this is a conservative assumption that is unlikely to occur, the Department considers these predicted impacts to be acceptable.

Other Noise and Vibration Impacts

The NIA assessed that applicable noise impact assessment criteria would be met for:

- potential sleep disturbance from the project's activities;
- road traffic noise impacts; and
- overpressure and ground vibration from blasting activities.

Conclusion

The NIA determined that the majority of noise and vibration impacts associated with the project would meet relevant criteria, except operational noise levels for two residences and for pass-by rail noise for 4 residences closer than 31 m to the rail line.

The Department has recommended conditions of approval to provide real-time monitoring of noise-enhancing weather conditions and a reactive management protocol to be included in the NMP. This would allow Charbon to closely manage its operations in terms of acoustic impacts. Additionally, the Department has recommended conditions that require Charbon to implement all reasonable and feasible noise mitigation measures at the mine and provide noise mitigation works at residence P. The Department is satisfied that with implementation of the recommended conditions, the noise impacts associated with the project would be minimal and would be appropriately managed and mitigated.

4.2 Biodiversity

The EA includes a specialist flora and fauna assessment undertaken in general accordance with applicable DECCW guidelines. The additional proposed open cut pits would result in the disturbance of 87.8 ha of land, comprising 46.4 ha of cleared land and 41.4 ha of vegetated land (see Table 3). While additional underground mining would occur, the predicted subsidence is less than 20 mm and accordingly it is expected to have a negligible impact on vegetation and fauna habitat.

Table 3: Disturbance Areas and Proposed Biodiversity Offset Strategy

Vegetation Community	Area Subject to Direct Disturbance (ha)	Area to be Conserved (ha)	Offset Ratio (Area Conserved : Area Disturbed)
Grey Gum–Stringybark Forest	17	41	2.4: 1
Mountain Grey Gum–Grey Gum–Mountain Hickory Sheltered Forest	5.7	13	2.3: 1
Stringybark–Blakely's Red Gum–Yellow Box Woodland	5.7	13	2.3: 1
White Box–Yellow Box–Blakely's Red Gum Woodland (EEC)	13	57 (13 onsite remainder off site)	4.4: 1
Cleared Land	46.4	47 (to be revegetated)	1: 1
Total	87.8	171	

Threatened Species

One EEC, *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland* ("White Box EEC"), and one threatened flora species, *Eucalyptus cannonii* (Capertee Stringybark), listed under the *Threatened Species Conservation Act 1995* (TSC Act) were recorded on-site. The White Box EEC is also listed under the Commonwealth EPBC Act as the critically endangered *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* ecological community (see Figure 4).

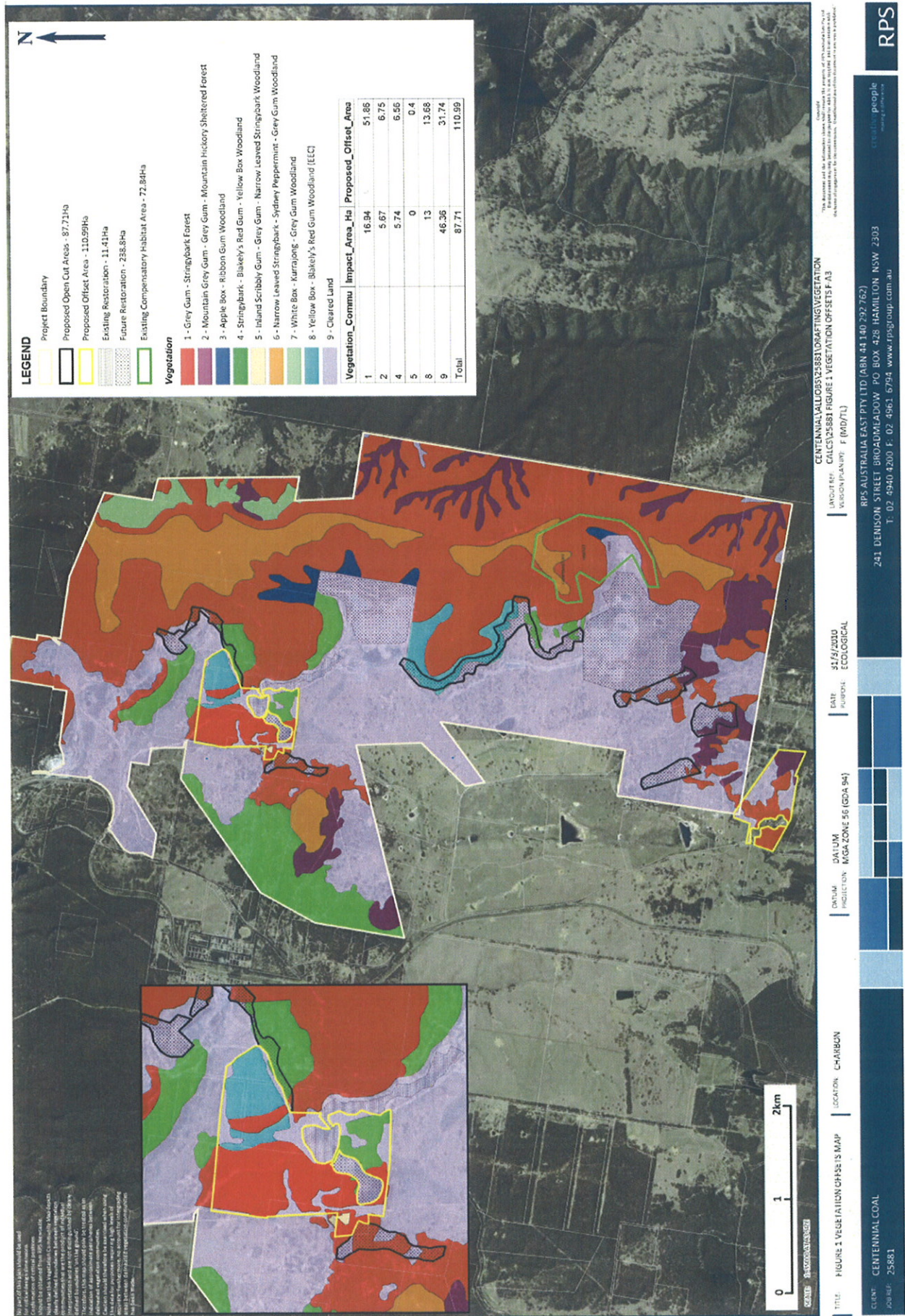


Figure 4: Vegetation Communities and Proposed Offsets

Fauna surveys identified 140 fauna species on the site. Of these, 16 species are listed under the TSC Act (refer Figure 5):

- Gang-gang Cockatoo;
- Powerful Owl;
- Barking Owl;
- Brown Treecreeper;
- Black-chinned Honeyeater;
- Speckled Warbler;
- Diamond Firetail;
- Scarlet Robin;
- Large-eared Pied Bat;
- Eastern Bentwing-bat;
- Greater Long-eared Bat;
- Eastern Cave Bat;
- Yellow-bellied Sheath-tail-bat;
- Eastern False Pipistrelle;
- Little Eagle; and
- Varied Sitella.

However, only four threatened fauna species were observed in areas that would be disturbed –the Diamond Firetail, Eastern Bentwing-bat, Large-eared Pied Bat and Speckled Warbler (refer Figure 5).

Two threatened or migratory fauna species listed under the EPBC Act were recorded during field surveys, namely, the Rainbow Bee-eater and White-throated Needletail. The Large-eared Pied Bat is also listed as a vulnerable species under the EPBC Act. Additionally, two species listed as threatened under the TSC Act or the EPBC Act, the Spotted-tailed Quoll and Regent Honeyeater, have been recorded as occurring within 10 km of the mine. The project has been declared to be a controlled action under the EPBC Act, as the Commonwealth considers that it is likely to cause significant impacts on the *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* ecological community and the Regent Honeyeater. As noted in section 2.7, the Commonwealth is conducting its own assessment of the project, rather than accrediting the NSW assessment. It should also be noted that the Regent Honeyeater was not recorded on site, and is only known from Wildlife Atlas records within 10 km of the site.

The project would disturb 13 of 26 ha of the White Box EEC existing within the project area. The flora assessment determined that this may have a significant impact on this vegetation community. Subsequently DECCW and the Department determined that in order to improve or maintain biodiversity outcomes, a biodiversity offset would be required (see below).

The project would remove 40 Capertee Stringybark trees, with 400 remaining within the project site. A test of significance determined that the proposed impact upon this species would not be significant. This finding took into account proven successes with on-site replanting of the species in post-mining landforms and the large numbers of this species remaining on-site and within nearby reserves.

The project would remove habitat for 10 of the threatened fauna species likely to occur on-site. Charbon has committed to preparing a Fauna Management Plan containing measures to minimise individual injury/mortality rates among the identified threatened fauna species. These measures include pre-marking of all habitat structures for re-use, gradual disturbance and slow-felling, and the presence of an ecologist to capture and relocate individuals that do not move into adjacent areas on their own. Additionally, Charbon has committed to revegetating all open cut pits with endemic flora species.

Charbon provided assessments of significance for all threatened fauna species identified on-site. These tests concluded, due to the low density of observed species, nearby reserves with abundant habitat and large fauna populations, and the mitigation and compensatory measures proposed; it is unlikely that the project would significantly impact any of these species.

To manage the impacts associated with the removal of vegetation the Department has recommended conditions of approval that would require Charbon to prepare a Landscape Management Plan which would detail mitigation measures and management protocols to rehabilitate the site, re-use habitat structures, relocate fauna species, rehabilitate disturbed areas and manage weeds, feral animals and existing and proposed conservation / offset areas.

The project would disturb land within the Kandos State Forest, accordingly the Department has recommended conditions requiring Charbon to notify State Forests NSW six months prior to works starting within the 8 Trunk open cut pit, to enable harvesting of any marketable timber, as well as requiring Charbon to rehabilitate this area to the satisfaction of I & I NSW.

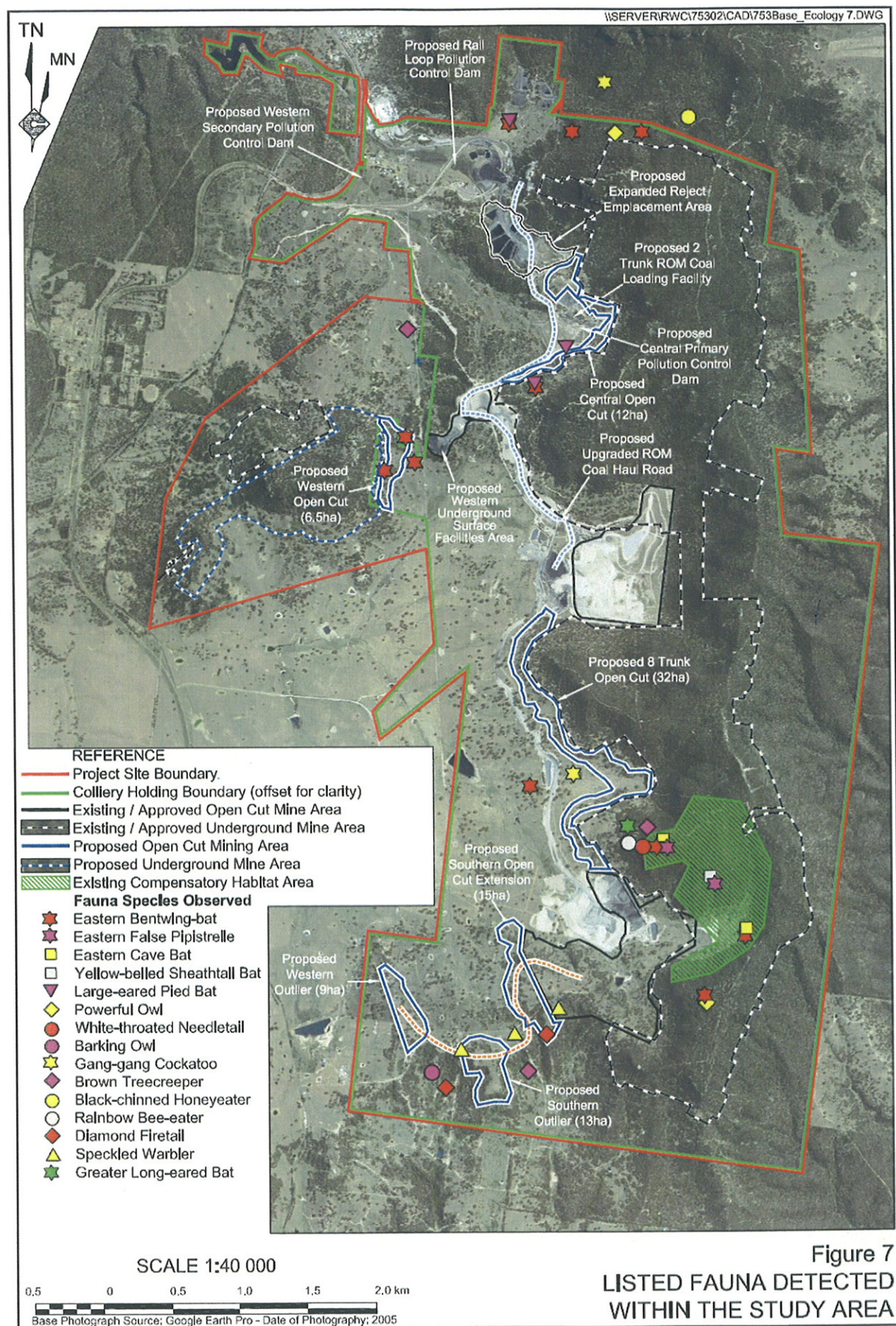


Figure 5: Location of threatened fauna species records.

Biodiversity Offset Strategy

DECCW considered that Charbon's initial reliance in its EA on revegetating open cut pits, preserving habitat structures and relocating threatened species was insufficient to mitigate the project's impacts. DECCW therefore sought the provision of a biodiversity offset strategy (BOS) developed using a quantitative method in general accordance with DECCW guidelines. The Department agrees with this approach.

The first BOS proposal provided by the company was not based on a quantitative scientific method, and over-represented the Grey Gum-Stringybark Forest vegetation community while under-representing all other vegetation communities, particularly the EEC. Accordingly, DECCW concluded that the proposed offset still did not maintain or improve biodiversity outcomes for the project. The Department then proposed a BOS framework (see Table 3) which has been accepted by both Charbon and DECCW. Most elements in this framework reflect recommendations by DECCW (in particular an offset of 57 ha for the 13 ha of EEC to be cleared). The Department considers this offset to be significant, and notes that it must include at least 44 ha of off-site vegetation, since only 13 ha of the White Box EEC will remain on site, after disturbance.

The key change in the BOS from that proposed by DECCW is a lesser area to offset the disturbance of previously-cleared land. The Department considers that open cut mining of 46.4 ha of previously-cleared land would be adequately offset by revegetating and setting aside for conservation purposes a further 47 ha of similarly cleared land. In this respect, the Department notes that the 46.4 ha of cleared land disturbed will also be revegetated as part of rehabilitating the open cut pits. Accordingly, the total area of land to be revegetated would be 134.8 ha. The Department considers this to be an appropriate offset for the cleared land vegetation community, given its previous use and Charbon's success with revegetation of mined land (see cover photo).

The Department has recommended conditions of approval that would require Charbon to acquire the areas listed in Table 3 prior to 31 December 2012 or the clearing of any EEC vegetation, whichever is the sooner, and to make suitable arrangements to provide appropriate long-term security for the offset areas to the satisfaction of the Director-General.

Conclusion

The proposal would remove 41.4 ha of vegetated land which would result in the loss of 13 ha of EEC, 40 Capertee Stringybark trees and habitat for several threatened fauna species likely to occur on-site.

The Department has recommended that Charbon be required to produce, and then implement, a Landscape Management Plan, designed to mitigate the impacts of vegetation clearing and other mining-related activities, as well as implement the rehabilitation of the site.

The Department considers that the revised BOS proposed by Charbon would maintain or improve biodiversity outcomes in the medium to long-term. The Department has recommended conditions of approval that require Charbon to provide and manage a combined on-site and off-site BOS and provide long-term security in order to ensure that these lands remain managed for conservation purposes.

4.3 Air Quality

The EA includes an Air Quality Impact Assessment (AQIA) undertaken in general accordance with applicable DECCW guidelines. The AQIA includes consideration of emissions predicted to result from the project, as well as existing project-generated and background dust levels. The AQIA modelled four different extraction scenarios:

- Year 1 Operations – Southern Open Cut and Extension;
- Year 3 Operations – Southern Open Cut / Extension and Outlier;
- Year 4 Operations – Southern Open Cut / Extension / Outlier and Western Outlier; and
- Year 7 Operations – Central and 8 Trunk Open Cuts.

The AQIA determined that open cut activities and wind erosion would be the largest contributors to air quality impacts. The AQIA can be considered conservative as the modelling was based on the mine being operated at full production (1.5 Mtpa), with all machinery operating at the same time at locations close to receivers, and no consideration of pit depth. Additionally, monitoring station data from 2006 at Bathurst was used to represent background air quality. While this is the most complete and contemporary data set, Bathurst is located in an agricultural area some 70 km southwest of the project site. Further, in 2006, NSW experienced many poor air quality days due to continuation of the drought and significant bushfires.

The AQIA determined that emissions from the project would be below the TSP criteria for all residences. DECCW raised concerns regarding the calculation of TSP impacts but considered that this could be addressed by adequate monitoring of TSP at nearby residences.

Predicted emission levels were below the annual PM_{10} and dust deposition criteria for all residences for all operational scenarios, except for residence G (refer Figure 6) during Year 4 operations. Residence G was predicted to experience exceedances of $0.5 \mu g/m^3$ over the annual PM_{10} air quality standard of $30 \mu g/m^3$. This exceedance is considered to be within modelling error, and unlikely to eventuate, given the conservative assumptions in the AQIA.

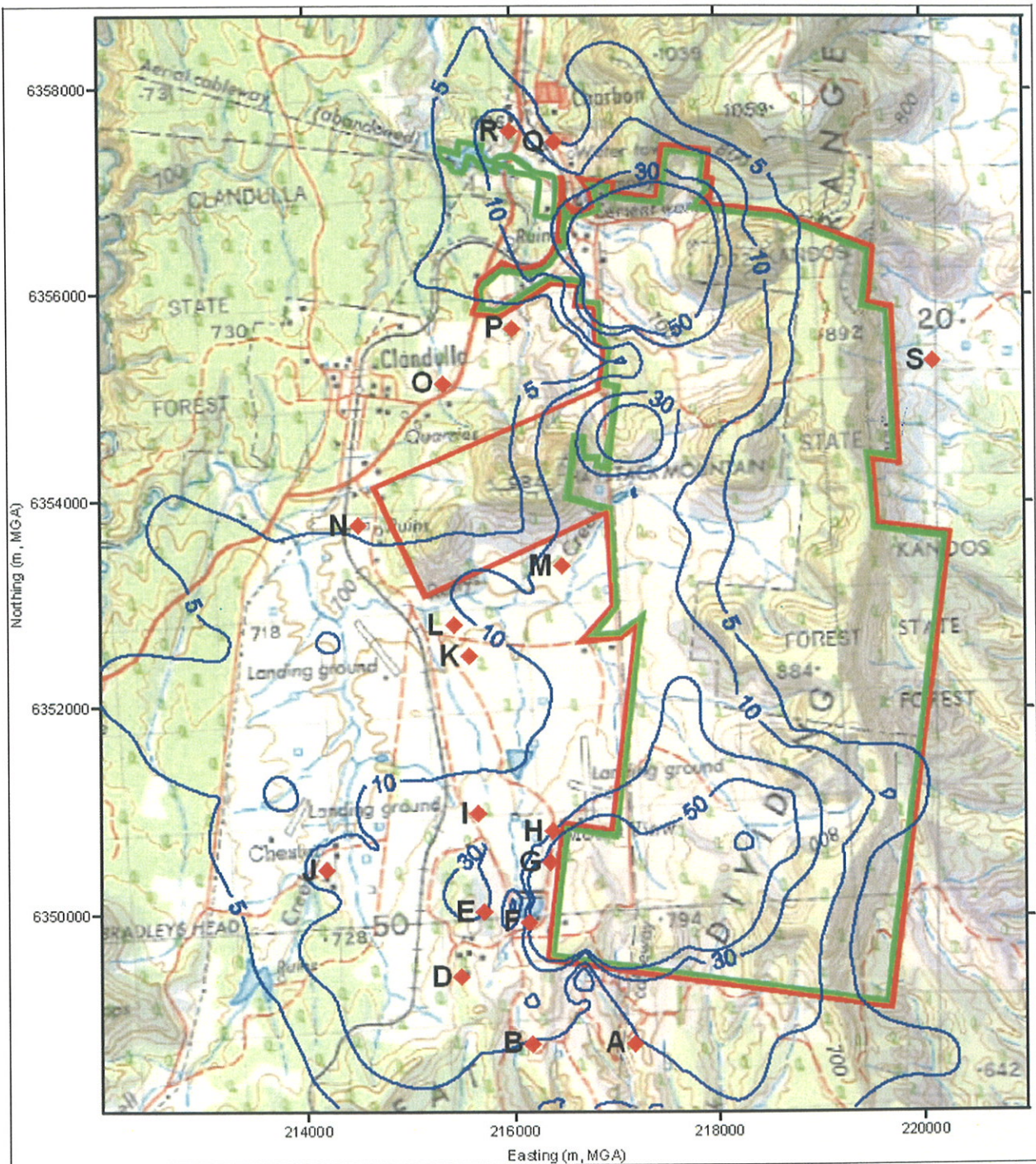


Figure 6: Predicted Incremental 24-hour Average PM_{10} Concentrations ($\mu g/m^3$) Year 4 Operations.

However, residence G is predicted to experience exceedances of the 24-hour PM₁₀ air quality cumulative criteria for up to 51 days of the year during Year 4 operations. These exceedances are attributed to open cut mining in the Western Outlier, which would take 6-12 months to complete. Residence G is also predicted to experience exceedances during Year 4 of 1.1 g/m²/month over the incremental and total dust deposition criteria of 2.0 and 4.0 g/m²/month, respectively. These predictions are 'worst-case', however, they are significant.

The 24-hour air quality cumulative criteria for PM₁₀ is predicted to be exceeded for between 1 and 5 days per year at residence B during Year 1; residences E and F during Year 3; residences D, E, F and I during Year 4 and resident K during Year 7. Exceedances between 1 and 5 days per year are not considered systemic, but are likely to reflect existing high background concentrations (eg from bushfires and dust storms). As these exceedances are predicted to occur rarely, and conservative assumptions were used, the likely PM₁₀ 24-hour impact upon the air quality of these receivers caused by the project is judged to be minimal.

The Department also notes that residences F and H are located very close to residence G, however, the AQIA does not predict any significant exceedances at them (see Figure 6). The contours separating 50 µg/m³ and 30 µg/m³ 24 hour concentrations are very close in this location, and the Department is concerned to ensure that air quality management at each of these locations minimises potential dust impacts.

The Department has therefore recommended conditions to ensure that Charbon prepares an Air Quality Management Plan to be submitted and approved prior to works commencing in the Western Outlier. The Management Plan would include a combination of real-time monitors (to monitor impacts during mining operations) including high-volume samplers and dust deposition gauges to monitor dust emissions. Additionally, the Plan would include protocols for review of real-time data to ensure that operations are relocated, modified and/or stopped to achieve compliance with the relevant air quality criteria at residence G and other nearby affected residences. The Department believes the implementation of this Management Plan would ensure activities in the Western Outlier would be effectively managed to ensure air quality criteria are met, or if this is not possible, any exceedances that may occur would be quickly identified and corrective action taken. The Department has also recommended conditions that would allow the owner of residence G or any other affected residence to request attenuation works at their property, and if monitoring confirms that significant and systemic exceedances are occurring, then request the acquisition of their property.

To further protect air quality, the Department has also recommended conditions of approval that would require Charbon to:

- comply with applicable cumulative air quality criteria;
- establish a detailed air quality monitoring program;
- ensure all reasonable and feasible measures are implemented to minimise off-site dust, odour or fume emissions generated by the project;
- implement a program of continual improvement in air quality management; and
- communicate with surrounding landowners and effectively respond to enquiries and complaints.

Conclusion

The AQIA indicates that dust emissions from the mine would generally comply with established air quality criteria during all stages of the mine's operation, except during Year 4 for residence G. The Department has recommended a range of conditions of approval to minimise, monitor and manage air quality impacts, as well as allowing for the owner of residence G (and any other affected nearby residence) to request mitigation works or acquisition, if required. Subject to these conditions, the Department is satisfied that the project is able to be managed such that it would produce low and manageable air quality impacts.

4.4 Transport

Coal would be transported to four destinations by road: Charbon Lime Works, Kandos Cement Works, and Mount Piper and Wallerawang Power Stations. Laden coal trucks would only be permitted to leave the Colliery between 7 am and 10 pm, seven days per week.

The Traffic Impact Assessment (TIA) reviewed the capacity, safety and accident histories of the public road routes and assessed the impact of the proposed maximum number of coal trucks that would travel on them. The road from the mine to the lime works is a private haul road and accordingly was not assessed. The TIA was very conservative and assessed a maximum transport rate on public roads of 100 laden vehicle movements/day to the power station(s) plus 20 laden vehicle movements/day to the cement works.

It must be noted that Charbon is not a regular supplier of coal to the power stations. Charbon only dispatches coal to these markets when Centennial's usual supplying mines (Angus Place and Springvale) cannot meet contractual obligations (eg in the case of a protracted longwall changeout or an unplanned break in production). Coal would therefore only be transported from Charbon to the power station(s) on an occasional, campaign basis. It should also be noted that it is usual for a single truck to be used to transport all 20 loads of coal to the cement works over the course of a day.

The TIA determined that, even at the proposed maximum laden vehicle movements (100 + 20), the proposed transport routes would continue to have a good level of service with spare capacity for current and forecast traffic movements.

However, Council identified that the current haulage route from the Colliery to the cement works utilises a timber single-lane rail overpass bridge, which at proposed maximum traffic movements would require replacement in the short to medium-term. Additionally, the route travels through built-up residential areas and Council noted that a shorter (by 2.6 km per one way trip) and more direct route is available, using Charbon Road. At the maximum rate of 20 laden vehicle movements/day, the shorter route would reduce the distance travelled by coal trucks by 104 km per day. Additionally, this route would avoid the timber overpass bridge. However, approximately 1.1 km of this route is unsealed.

The Department considers the use of the rail overpass bridge by coal haul trucks to be inappropriate, given its poor surface conditions, low speed limit (5 km per hour), one-way traffic flow and generally poor condition. Additionally, the Department considers the current route through residential streets of Kandos to be inappropriate given there is a shorter route available along sparsely-populated Charbon Road.

Charbon has therefore committed to sealing sections of Charbon Road and utilising this route once this upgrade is completed. The Department has recommended conditions of approval requiring that all coal trucks dispatched to the cement works only use Charbon Road after September 2011, as well as a condition requiring sections of Charbon Road near two residences to be sealed to mitigate traffic-generated dust.

Charbon has previously transported coal by road on a campaign basis to the power station(s) with little impact to capacity or safety of these routes. However, these routes have deteriorated over time and Council has advised that Carwell Creek Bridge on Bylong Road would need to be upgraded to accommodate the predicted increase of 64% in peak daily heavy vehicle numbers during delivery campaigns. Charbon has committed to a payment of \$210,000 towards the upgrade of this bridge, which Council has accepted. The Department has recommended a condition of approval that requires this payment be made within 30 days of the start of any upgrade works by the Council.

Charbon has also committed to contribute to maintenance of all road routes. The Department has recommended a condition that requires that Charbon pay 5 cents/tonne/km for coal hauled to the cement works and 77 cents/tonne for coal hauled to the power station(s).

Council also requested that the money be available upfront for preventative maintenance for the routes to the power station(s) instead of repairing road damage after it had occurred. The Department agrees with this proactive approach and has recommended a condition of approval that requires Charbon to provide Council with an up-front bond of \$75,000. Once the progressive fee calculated on the basis of actual coal road haulage reaches \$75,000, Charbon would again pay Council \$75,000, and so on, until the mine ceases production.

Amenity and road safety issues associated with the proposed transportation of coal to the power stations were raised by Council and several local residents. As indicated in the EA, Charbon only intends to transport coal to the power stations on a campaign basis, if and when the mines that usually supply this coal are unable to do so. In addition, transport of coal from Charbon involves a high costs when compared with the usual supplying mines, which are much closer to the power stations. Accordingly, it would be in Centennial's financial interests never to have to call upon coal supplies from Charbon to fulfil power station contracts. However, essentially to guarantee security of supply, Centennial has sought approval to transport up to 250,000 tonnes per year of coal to the power stations.

The EA considered aspects of proposed coal haulage on local roads (ie prior to reaching the Castlereagh Highway), such as sight distances, accident history and the condition of the Carwell Creek Bridge. However, it did not include a methodical safety risk assessment of these local roads. The Department believes that this absence should be addressed by requiring Centennial to undertake a road safety audit. The Department has

recommended a condition of approval that requires Charbon to undertake, prior to March 2011, a road safety audit of public roads between the mine and the Castlereagh Highway and to then prepare an action plan for the implementation of any recommendations. However, if it eventuates that Charbon does not transport any coal to power stations, or this does not occur for a substantial period, then the timing and extent of actual road haulage operations should influence the implementation of any such recommendations.

The Department has considered the proposal to allow dispatch of coal trucks from the mine between 7 am and 10 pm, Monday to Sunday, and the impacts that this may have on residents living close to local roads. The Department believes that, in this particular case, the hours of coal road haulage should roughly approximate daylight hours, when traffic noise impacts are less likely to interfere with both road safety and residential amenity. Accordingly, the Department has recommended that coal truck dispatches from the mine are not to occur after 6 pm.

Charbon has also committed to preparing a Transportation Management Plan, which would include a driver's code of conduct and procedures for incident and non-compliance reporting, as well as training for safe negotiation of narrow bridges. The Department is satisfied that this commitment would further reduce transport risks associated with the route.

Conclusion

The Department has recommended conditions of approval requiring Charbon to pay appropriate road maintenance fees, upgrade and utilise Charbon Road, and contribute to the upgrade of Carwell Creek Bridge. In addition it has recommended that the dispatch of coal trucks from the mine be limited to between 7am and 6 pm Monday to Sunday. On this basis, the Department is satisfied that the project is able to be managed such that it would produce minimal impacts to the road network and road users.

4.5 Other Issues

Other issues assessed are presented in Table 4 below.

Table 4: Other Issues

ISSUE	CONSIDERATION	IMPACT
Cultural Heritage	An Indigenous archaeological assessment was undertaken for the site in consultation with the Bathurst Local Aboriginal Council, Warrabinga Native Title Claimants, North East Wiradjuri and two individuals. A review of online databases and previous investigations identified 14 registered sites within the project boundary. The field survey and assessment identified a further 12 sites. Two of these sites would be disturbed by the proposed 8 Trunk open cut pit; Sensitive Archaeological Landform 4 (SAL 4) and potential Scarred Tree 5 (ST-5). The Department has recommended a condition of approval requiring Charbon to prepare an Aboriginal Cultural Heritage Management (ACHM) Plan, in consultation with the local Aboriginal community and in accordance with DECCW guidelines. DECCW's initial concerns regarding limited consultation with the local Aboriginal community would be addressed by the development and implementation of the ACHM Plan. The ACHM Plan would outline measures to further investigate SAL 4 as well as recording and managing the removal of ST-5, prior to any excavation in the 8 Trunk open cut pit. The management plan would detail methods to protect sites, artefacts and any remains discovered on-site, as well as educational programs for staff and contractors. The Department is satisfied that the impact to Aboriginal cultural heritage from the proposal is likely to be minor and adequately mitigated.	Minor
Surface Water and Erosion	The proposed development could potentially reduce surface water quality and availability. To prevent sedimentation, Charbon would construct diversion banks to divert clean water from undisturbed catchment areas to existing natural drainage gullies. Due to steep terrain, diversion works are unlikely to be installed around two of the open cut pits (8 Trunk and Central). To prevent dirty water being discharged Charbon proposes to construct three new pollution control dams, and would upgrade all existing dams as required. The Department has accordingly recommended conditions of approval requiring all pollution control dams and structures to be constructed or upgraded to relevant best practice guidelines. DECCW initially raised concerns regarding the size of sediment control dams and the impact to drainage lines and creeks from proposed discharge points. DECCW is now satisfied that all sediment control dams would be constructed to the relevant	Minor

ISSUE	CONSIDERATION	IMPACT
	standard, while Charbon has committed to undertaking an investigation into the impact of water being discharged into drainage and creek lines prior to any grant of an environment protection licence for such discharges. The proposal would increase the amount of surface water that is intercepted within the project site as well as increasing the amount of surface water used for operational purposes. Surface waters intercepted and stored in the Riley's Creek Catchment would be for sediment control purposes only and all excess water would be discharged once treated. Accordingly, the impact to this catchment and down stream users would be negligible. The Reedy's Creek catchment is a closed system with all water in this catchment reporting to Reedy's Creek Dam (220 ML capacity). Accordingly, there would be no additional impact to this catchment as water rarely flows past the dam. NOW raised concerns regarding licensing and notes there is an embargo on surface water entitlements for the project area and appropriate licences would be needed for the proposed increase in water usage by the mine. NOW is satisfied its concerns have been addressed by Charbon's commitment to obtain the necessary licences. The Department has recommended conditions that require Charbon to prepare a Site Water Management Plan, to include a surface water monitoring program and sediment control maintenance program. The Plan must provide for monitoring and assessment of water usage and discharge; health of receiving water-ways; potential acid mine drainage associated with reject emplacement; and refinement of the surface water model. The Department is therefore satisfied that surface water impacts would be adequately managed over the life of the mine.	
Site Water Balance	The site water balance estimated water availability for the mine for three operational scenarios (Years 1, 4 and 7) for potential low, medium and high rainfall years. The review predicted that the mine would experience water stress in low rainfall years, especially if this coincided with Year 7. This would lead to greater demand on groundwater production bores and groundwater stored within the existing underground workings during low rainfall years. NOW raised concerns regarding the assumptions within the site water balance. Charbon has committed to recalibrating and verifying the site water balance within 12 months of approval. NOW is satisfied with this commitment. The Department has recommended conditions of approval requiring Charbon to prepare a Site Water Management Plan, which would include measures to reduce water use on site, as well as requiring the Colliery to adjust mining operations to match water availability. The Department is satisfied that water availability for the project can be adequately managed.	Minimal
Groundwater	There are three aquifers beneath the site. The Nile Subgroup / Shoalhaven Geological Group is identified as the principal aquifer system for the region. The two other aquifers are low yield low flow systems and are unlikely to provide significant water to either local users or the environment. Existing and historic mining observations at the mine support this conclusion. All proposed open cut pits and the underground workings would be located at least 39 m above the regionally significant Nile Subgroup / Shoalhaven Group aquifer. Therefore, impacts from open cut mining operations to regional groundwater resources are not expected. Charbon has two licensed groundwater extraction bores, which are currently licensed to extract 30 ML/year from the Nile Subgroup / Shoalhaven Group aquifer. Charbon proposes to increase the maximum extraction rate to 39 ML/year. The closest privately-owned bores are over 2.5 km away. This increased extraction rate is unlikely to reduce the groundwater availability in privately-owned bores. Mining at the Western Underground is predicted to result in subsidence of less than 20 mm, with limited overburden cracking. Accordingly, it is anticipated that only minor increases in rainfall recharge into the proposed underground workings would result. The Department has recommended conditions of approval requiring the mine to monitor groundwater levels and usage. The Department is therefore satisfied that groundwater impacts can be adequately managed	Minimal

ISSUE	CONSIDERATION	IMPACT
<i>Visual Amenity</i>	A visual assessment was undertaken to determine the impact of the proposed open cut pits. The visual assessment determined the only views of mining operations available to the public are from the south-west and would be partially or fully obscured by vegetation or low rises from most vantage points. Charbon has undertaken tree planting along Mount View Road to screen views of the mine from this direction. Residences G and H (refer Figure 3) are approximately 250 m from the Western Outlier pit and are the closest to any open cut pit. However, the elevated position of the pit within Hill B and its location on the opposite side of the ridge would ensure that they are screened from view by the western half of Hill B. As open cut operations would occur in early evening hours, impacts from night lighting may affect nearby residences. Charbon would direct lights away from residences and below the horizontal, limit out-of-pit work during evenings and install bunding and screening where appropriate. Each pit would be completed in approximately 1-3 years and rehabilitation work would commence progressively, during daylight hours only. The Department has recommended conditions of approval to ensure appropriate lighting measures are undertaken by the mine. Given the limited views, and recommended conditions of approval, the Department is satisfied that the visual impact for neighbouring residents would be minimal.	Minimal
<i>Subsidence</i>	An assessment of potential surface subsidence above the proposed Western Underground was undertaken. The Western Underground is located under the regionally significant landscape feature, Haystack Mountain. The proposed underground mining method is bord and pillar mining with first workings only. No housing, infrastructure or land improvements are situated above the proposed underground mining area. The geotechnical assessment determined that mining would result in subsidence of less than 20 mm, and that induced tilts and strains would be insignificant. The minimum depth of cover (overburden) above the underground mine would be limited to 25 m, given the likely presence of weathered zones. The environmental consequences which could result from the Western Underground include small increases in groundwater infiltration into underground workings and potential impacts on cliff faces. Given that Haystack Mountain is hydrologically-isolated and above the regional aquifer, the predicted minimal subsidence is likely to result only in minor additional rainfall water infiltration into the mined seam. It is also highly unlikely that cliff falls would occur, given that subsidence will be minimal, with insignificant tilts and strains. In addition, there are no EECs or groundwater dependent ecosystems above the proposed mining area. The Department has recommended conditions of approval which would require Charbon to monitor, manage, report and prevent subsidence impacts, effects and consequences at the Western Underground. The Department is satisfied that, with the implementation of the recommended conditions, subsidence impacts, effects and consequences from the proposal would be minimal. Mining in the existing, approved underground mining area is managed under a Subsidence Management Plan (SMP) granted under conditions of the mine's existing mining leases. This SMP would continue in place, and a condition of approval has been proposed to ensure that underground mining operations in this area are carried out in accordance with that SMP.	Minimal
<i>Rehabilitation & Final Land Use</i>	The project would alter the current landform by disturbing 87.8 ha of cleared and vegetated land. Charbon has committed to rehabilitating the site to create a stable, undulating landscape with suitable habitat for endemic species. Sediment control ponds would remain within the rehabilitated landform until there is enough vegetation cover to prevent excessive erosion (see cover photo). The Department has recommended conditions of approval that would require Charbon to prepare and implement a Landscape Management Plan. This plan would outline methods, performance criteria and responsibilities for revegetation and rehabilitation of the site, as well as outlining the objectives and criteria for mine closure. The Department has also recommended conditions requiring Charbon to lodge a rehabilitation bond. The Department is satisfied that subject to these conditions, the site would be adequately revegetated and rehabilitated. The Department is satisfied that the proposed rehabilitation objectives would provide beneficial ecological habitat and a	Minimal

ISSUE	CONSIDERATION	IMPACT
	landscape compatible with surrounding land uses.	
<i>Greenhouse Gas Emissions</i>	At a production rate of 1.5 Mtpa of ROM coal, the proposal would release the following greenhouse gas emissions (GHGE): • Scope 1 (CO_{2-e}) 37,970 tpa; • Scope 2 (CO_{2-e}) 12,815 tpa; and • Scope 3 (CO_{2-e}) 3,190,678 tpa. Charbon has prepared an Energy Savings Action Plan (ESAP) to reduce direct emissions produced at the mine. Reductions would be achieved by reducing diesel fuel consumption and implementing a number of energy saving actions, such as turning off equipment when not in use. This would result in a total saving of 886 tpa CO_{2-e} in Scope 1 and 2 emissions. Annual average Scope 1 and 2 emissions for the project represent around 0.036% of total NSW emissions and 0.011% of total Australian emissions in 2007. The Department has weighed the greenhouse gas impacts of the project against a range of matters, including its contribution to global GHGEs, the need for the project and its socio-economic benefits, and the GHG impact mitigation measures available. The Department is satisfied that the project's potential GHG impacts are minimal, in the overall NSW, Australian and global contexts. The Department has also recommended conditions of approval requiring Charbon to minimise scope 1 and 2 CO₂ emissions.	Minimal
<i>Hazards and Waste</i>	The project disposes of treated sewage effluent on-site by irrigation as well as storing, handling and disposing of fuels, oils and rubbish associated with mining. The Department has recommended conditions of approval to minimise waste; appropriately store, handle and dispose of hazardous materials; manage on-site sewage in accordance with the requirements of the applicable EPL; and ensure that the project is suitably equipped to respond to fires on-site. Subject to these conditions, the Department is satisfied that the project would satisfactorily manage hazards and waste.	Minimal
<i>Socio-economic Impacts</i>	Mining is the second largest employer in the Kandos, Clandulla and Charbon communities. The proposal would ensure on-going employment for 138 full-time and 5 part-time current employees at the mine for at least 7 years. Coal extracted from the site would provide an affordable supply of coal to local industry, which employs approximately a further 124 people. Other benefits include the contribution from the sale of the resource, which would provide approximately \$31 million per year into the State and national economies, including taxes and royalties. Additionally, the Department has recommended conditions of approval requiring Charbon to enter into a Voluntary Planning Agreement with Council to provide funding for local community facilities. Accordingly, the proposal would provide employment and economic benefit for the State, regional and local communities.	Beneficial

5. RECOMMENDED CONDITIONS

The Department has prepared recommended conditions of approval for the proposal (see Appendix A). These conditions are required to:

- prevent and/or minimise or offset adverse impacts of the proposed project;
- set standards and performance measures for acceptable environmental performance;
- ensure regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Charbon has reviewed and accepts the recommended conditions.

6. CONCLUSION

Charbon is seeking project approval to extract up to 5.2 Mt of ROM coal at a rate of up to 1.5 Mtpa at the existing Charbon Colliery. The life of the proposal is estimated to be from 7 to 15 years.

The Department has assessed the project application, EA, public and agency submissions and Charbon's Response to Submissions, and is satisfied that there is sufficient information available to determine the application. This assessment has found that the proposed application would have only limited impacts on local residents, most notably increased noise and air quality impacts. The Department has recommended conditions of approval to ensure these impacts are kept to a minimum and allow for impacted residents to

seek mitigation works at their properties or, if appropriate, acquisition rights. The Department is satisfied that these conditions would ensure the impacts to residents would be minor and would be appropriately mitigated.

The Department also considers that the offset and rehabilitation strategy proposed by Charbon, including the protection of 171 ha of vegetation and the rehabilitation of 87.8 ha of the mine site, would ensure that flora and fauna impacts are appropriately compensated for and managed over the medium to long-term.

The Department considers that the proposed road upgrade works, road maintenance contributions, road safety audit, and Traffic Management Plan would adequately mitigate the proposed traffic impacts, resulting in minimal impacts to the road network and road users.

The Department is satisfied that remaining impacts associated with the project can be mitigated and/or managed to ensure an acceptable level of environmental performance.

In assessing the proposed project, the Department has taken into account the objects of the EP&A Act, in particular the need to encourage ESD. The project would generate social and economic benefits for NSW, including the continued employment of approximately 143 people at the Colliery. Also, coal extracted from the site would provide an affordable supply of coal to a significant regional industry at Kandos. Other benefits include the contribution from the sale of the resource, which would provide approximately \$31 million per year into the State and national economies, including taxes and royalties.

Based on these considerations, the Department is satisfied that the proposal is in the public interest, and should be approved subject to conditions.

7. RECOMMENDATION

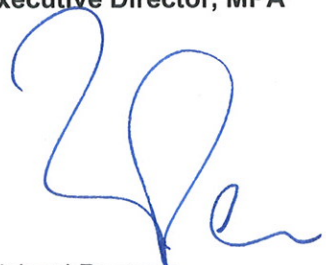
It is RECOMMENDED that the Planning Assessment Commission:

- consider the findings and recommendations of this report;
- approve the project application, subject to conditions, under section 75J of the *Environmental Planning and Assessment Act 1979*; and
- sign the attached project approval (see Appendix A).



6.9.10

Chris Wilson
Executive Director, MPA



6/9/10

Richard Pearson
Deputy Director-General, DASP

APPENDIX A – CONDITIONS OF APPROVAL

APPENDIX B – STATEMENT OF COMMITMENTS

See attached CD-ROM labelled *Environmental Assessment and Specialist Consultants Studies Compendium November 2009*. See Table 6.1 within the *Environmental Assessment*.

APPENDIX C – RESPONSE TO SUBMISSIONS

See attached CD-ROM labelled 'Charbon Coal Project 08_0211' containing a folder named *Response to Submissions*.

APPENDIX D – SUBMISSIONS

See attached CD-ROM labelled 'Charbon Coal Project 08_0211' containing a folder named *Submissions*.

APPENDIX E – ENVIRONMENTAL ASSESSMENT

See attached CD-ROM labelled *Environmental Assessment and Specialist Consultants Studies Compendium November 2009*.

APPENDIX F - ENVIRONMENTAL PLANNING INSTRUMENTS

Rylstone Local Environment Plan 1996

The Mid-Western Regional Council was formed following the merger of the Rylstone, Merriwa and Mudgee Councils. A draft Local Environment Plan has been prepared for the Mid-Western Regional Council LGA, but at present it only applies within the Mudgee LGA. As a result the *Rylstone Local Environment Plan 1996* (Rylstone LEP) applies to the project area. The project area is zoned 1(a) General Rural under the Rylstone LEP, and coal mining is permissible with consent in this zone.

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (Mining SEPP)

Part 3 of the Mining SEPP lists a number of matters that a consent authority must consider before determining an application for consent for development for the purposes of extractive industries, including:

- compatibility with other land uses;
- natural resource management and environmental management;
- resource recovery;
- transport; and
- rehabilitation.

These matters do not have to be considered when determining major projects. However, the Department has considered these matters in its assessment report, where appropriate. The Department is satisfied that the project is able to be managed in a manner that is generally consistent with the aims, objectives and provisions of the Mining SEPP. Additionally, reflecting clause 16(2) of the Mining SEPP, the application was referred to the Department of Transport and Infrastructure (DTI). The DTI raised no objection to the project.

State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP)

In accordance with clause 104 of the Infrastructure SEPP (and equivalent provisions of the now repealed *SEPP 11 Traffic Generating Developments*), the application was referred to the DTI. The DTI raised no objection to the project.

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development (SEPP 33)

SEPP 33 aims to identify proposals with the potential for significant offsite impacts, in terms of risk and/ or offence (odour, noise etc) to people, property or the environment. The Department is satisfied that the project is not potentially hazardous or offensive, and that the proposal is generally consistent with the aims, objectives, and requirements of SEPP 33.

State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP 44)

The project EA identified that the project site contains 'potential' Koala habitat. However, the fauna and flora assessment did not identify any resident Koalas or signs of Koalas within the project boundary. The Department is satisfied that the proposal is generally consistent with the aims, objectives, and requirements of SEPP 44.

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55)

SEPP 55 aims to ensure that potential contamination issues are considered in the determination of development applications. Clause 7 of SEPP 55 states that:

- 7(1) A consent authority must not consent to the carrying out of any development on land unless:
- (a) it has considered whether the land is contaminated, and
 - (b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and
 - (c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

The Department is satisfied that existing land contamination is not a significant issue for the site.

APPENDIX G – PLANS REQUIRED UNDER PROJECT APPROVAL

Condition	Plan	Due Date
Cond. 9 Schedule 3	Noise Management Plan	6 months from approval
Cond. 18 Schedule 3	Blast Monitoring Program	3 months from approval
Cond. 22 Schedule 3	Air Quality Management Plan	6 months from approval and prior any mining activities in either the Southern or Western Outlier Pits
Cond. 25 Schedule 3	Subsidence Monitoring and Contingency Plan	3 months prior to the commencement of mining operations at the Western underground
Cond. 29-33 Schedule 3	Water Management Plan – including: • Site Water Balance; • Erosion and Sediment Control Plan; and • Surface Water and Groundwater Monitoring Programs.	12 months from approval
Cond. 34 Schedule 3	Aboriginal Cultural Heritage Management Plan	12 months from approval and prior to any activities within the 8 Trunk Open Cut Pit area
Cond. 45 Schedule 3	Greenhouse Gas and Energy Management Plan	12 months from approval
Cond. 1 Schedule 4	Biodiversity Offset Strategy	Prior to 31 December 2012, or clearing of any EEC vegetation in the 8 Trunk Open Cut Pit area
Cond. 6 Schedule 4	Landscape Management Plan – including: • Rehabilitation and Offsets Management Plan; and • Mine Closure Plan.	12 months from approval
Cond. 1 Schedule 5	Environmental Management Strategy	6 months from approval
Cond. 3 Schedule 5	Annual Environmental Performance Review	By 31 March 2011, and annually thereafter
Cond. 8 Schedule 5	Independent Environmental Audit	By 31 December 2011, and every 3 years thereafter