



Planning & Environment

Bulga Underground Mine Noise & Biodiversity Modification (DA 376-8-2003 MOD 6)

Environmental Assessment Report

Section 75W of the *Environmental Planning and Assessment Act 1979*

1. BACKGROUND

Bulga Coal Management Pty Ltd (Bulga) operates the Bulga Mining Complex (BMC) located 12 kilometres southwest of Singleton in the Hunter Valley (see **Figure 1**). The Complex includes the Bulga Underground Mine, the Bulga Open Cut Mine, a Coal Handling and Preparation Plant (CHPP) and rail loop.



Figure 1: Locality Map

Whilst the BMC is managed as a single entity, the underground and open cut operations are subject to separate development consents. The Bulga Underground Mine, CHPP and rail loop operate under Ministerial consent DA 376-8-2003, which was granted in February 2004. Under this consent, Bulga may extract up to 14 million tonnes per annum (Mtpa) of run of mine (ROM) coal until 2031 using longwall methods, process up to 20 Mtpa of ROM coal in the CHPP and export up to 20 Mtpa of product coal using the rail loop.

Following the Planning Assessment Commission's approval of the Bulga Optimisation Project (BOP) in December 2014, the Bulga Open Cut Mine now operates under SSD 4960. The BOP extends the life of the open cut mine by 11 years (until 2035), with a maximum extraction rate of 12.2 Mtpa of ROM coal.

2. PROPOSED MODIFICATION

Following the approval of the BOP, a number of inconsistencies were identified by Bulga between the conditions of SSD 4960 and DA 376-8-2003. Consequently, Bulga is seeking to modify the conditions of DA 376-8-2003, to provide greater consistency between the two consents. The proposed modification involves:

- replacing the existing Noise Impact Assessment Criteria imposed under condition 30 of Schedule 4 with the respective criteria imposed under SSD 4960;
- deletion of existing cumulative noise conditions (32 and 32A of Schedule 4);
- replacing two of the existing biodiversity conditions (43 and 44 of Schedule 4) with the more contemporary Biodiversity Management Plan condition imposed under SSD 4960; and
- amending condition 7 of Schedule 6 to synchronise the timing of independent environmental audits for underground and open cut operations.

Bulga contends that the proposed modification will assist in the integrated management of the BMC. In particular, it will allow the coordination of quarterly noise monitoring reports and independent environmental audits, and help to streamline the Biodiversity Management Plan for the site.

3. STATUTORY CONTEXT

3.1 Section 75W

DA 376-8-2003 was granted under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). In accordance with Clause 8J(8) of the *Environmental Planning and Assessment Regulation 2000* and the transitional arrangements under Schedule 6A of the EP&A Act, the modification must be determined under the former section 75W of the EP&A Act.

The proposed modification is of a relatively minor administrative nature. Consequently, the Department is satisfied that the proposed modification is within the scope of section 75W, and may be determined accordingly.

3.2 Approval Authority

The Minister for Planning is the approval authority for the application. However, the Planning Assessment Commission must determine the application under the Minister's delegations of 14 September 2011 and 16 February 2015 as Bulga's parent company, Glencore Australia Holdings Pty Ltd, has declared reportable political donations.

3.3 Environmental Planning Instruments

A number of environmental planning instruments apply to the modification, including:

- *State Environmental Planning Policy (SEPP) (Mining, Petroleum Production and Extractive Industries) 2007*;
- *SEPP (Infrastructure) 2007*;
- *SEPP (State and Regional Development) 2011*;
- *SEPP No. 33 – Hazardous and Offensive Development*;
- *SEPP No. 44 – Koala Habitat Protection*;
- *SEPP No. 55 – Remediation of Land*; and
- *Singleton Local Environmental Plan 2013*;

The Department has assessed the proposed modification against the relevant provisions of these instruments. Based on this assessment, the Department is satisfied that the proposed modification

can be carried out in a manner that is consistent with the aims, objectives and provisions of these instruments.

4. CONSULTATION

Due to the administrative nature of the proposed modification, the Department considered that public exhibition was not required. However, the application and Environmental Assessment (EA) (see **Appendix A**) were placed on the Department's website and comments were sought from the Environmental Protection Authority (EPA), Office of Environment and Heritage (OEH) and Singleton Council. These authorities did not raise any concerns with the proposed modification.

5. ASSESSMENT

The Department has assessed the merits of the proposed modification in accordance with the relevant objects and requirements of the EP&A Act. In assessing these merits, the Department has considered the:

- Environmental Impact Statement (EIS) for the original development application;
- conditions of consent for the original development application, as amended by subsequent modifications;
- the modification application (MOD 6) and associated EA; and
- relevant environmental planning instruments, policies and guidelines.

The Department considers that the key considerations for the modification relate to noise and biodiversity impacts.

5.1 Noise

The proposed modification seeks to alter three conditions with respect to noise. Firstly, Bulga proposes to replace the existing Noise Impact Assessment Criteria imposed under condition 30 of Schedule 4 of the consent with the respective criteria imposed under condition 3 of Schedule 3 of SSD 4960. Secondly, the modification seeks to remove condition 32 of Schedule 4, which requires Bulga to implement all reasonable and feasible measures to ensure that cumulative noise impacts of the underground development, in combination with other mines, do not exceed specified amenity criteria. Finally, Bulga is seeking to remove condition 32A of Schedule 4, which affords acquisition rights where cumulative noise levels exceed specified acquisition criteria.

Condition 30, Schedule 4

Condition 30 of Schedule 4 requires Bulga to ensure that all noise generated by the development, except noise generated by gas drainage well construction for the Blakefield North Mine, does not exceed the assessment criteria specified in **Table 1** below at any residence on privately-owned land, or on more than 25 percent of any privately-owned land. The condition provides an exemption from these requirements where Bulga successfully negotiates a written agreement with the relevant landowners to allow an exceedance of these criteria.

Table 1: Noise Impact Assessment Criteria – Bulga Underground Operations

Residence/Land	Day	Evening	Night	
	<i>L_{Aeq}(15 min)</i>	<i>L_{Aeq}(15 min)</i>	<i>L_{Aeq}(15 min)</i>	<i>L_{A1}(1 min)</i>
249	40	40	40	45
8, 195	39	39	39	45
157, 179, 307	38	38	38	45
237, 239, 261, 262	38	38	37	45
232, 234, 235, 240	38	38	36	45
1, 2s, 154, 250, 252, 308	37	37	37	45
241, 243, 263, 264, 265, 266, 267, 272, 273, 274, 275, 276, 277, 279, 280, 281, 283, 284, 288	37	37	36	45
229, 230A, 230B, 231, 233, 236, 238, 242	37	37	35	45

Residence/Land	Day	Evening	Night	
	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (1 min)
97, 153, 163, 169e, 171, 183, 184, 197, 217s, 217m, 217n, 282, 285, 311	36	36	36	45
33, 156w, 222, 223, 226, 227, 228, 244, 254, 256, 286, 287, 289, 290, 291, 292, 293, 294, 295, 306	36	36	35	45
All other privately owned land, excluding the land listed in Table 1.	35	35	35	45

The proposed modification would retain the substance of condition 30, but replace the contents of **Table 1** with the respective criteria imposed under condition 3, Schedule 3 of SSD 4960 (see **Table 2**).

Table 2: Noise Criteria dB(A) – Bulga Optimisation Project

Location	Day	Evening	Night	Night
	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (1 min)
1A, 8	38	38	38	45
97	38	38	36	45
217n, 230, 232, 234, 323, 324, 325	37	37	37	45
1B, 94, 95, 103, 105A, 105C, 142A, 143B, 145, 164, 165, 179, 195, 217s, 217m, 222, 226, 227, 228, 229, 231, 233, 235, 237, 239, 240, 241, 261, 262, 263, 264, 265, 266, 272	36	36	36	45
All other privately-owned residences	35	35	35	45

The noise criteria in **Table 2** were derived from a detailed noise impact assessment prepared as part of the EIS for the BOP by Global Acoustics. This assessment modelled anticipated noise levels for both underground and open cut operations, as well as the CHPP (the “combined noise assessment”). Based on this modelling, condition 3 of Schedule 3 of SSD 4960 requires Bulga to ensure that noise generated by combined operations at the BMC does not exceed the criteria specified in **Table 2** above. As underground and open cut operations are managed as an integrated entity, the Department considers it appropriate to take a holistic approach to noise impact management under DA 376-8-2003.

Nevertheless, there are some differences between the above tables which must first be reviewed. Firstly, there are a number of receivers listed in **Table 1** which have not been listed under **Table 2**. Receivers 307 and 2s are now mine-owned, having been acquired by Warkworth Mining Ltd and Bulga, respectively. Similarly, Receiver 249 was excluded under SSD 4960 on the basis that it is vacant, flood liable land which is unsuitable for dwelling construction. Other receivers which are not individually listed in **Table 2** were assessed as part of the combined noise assessment, and were found to fall within the “all other privately-owned residences” category, with noise levels not exceeding 35 dB L_{Aeq} (15 min). Four receivers (Receivers 157, 252, 163 and 282) were considered in the combined noise assessment under different receiver numbers (Receivers 329, 264, 20 and 283, respectively). The Department is satisfied that all residential receivers afforded protection under **Table 1** above have also been properly considered and incorporated as appropriate into **Table 2**.

Secondly, in some cases the noise criteria applying to individual receivers vary between **Table 1** and **Table 2**. In many cases, these receivers are subject to lower criteria under **Table 2**. This may be attributed to more accurate modelling in the combined noise assessment. However, there are some receivers for which the applicable noise criteria would increase. Noise criteria for fifteen receivers would increase by 1dB and for five receivers, criteria would increase by 2dB. In practical terms, this modification would have no actual effect on noise levels at these receivers, as the combined noise impacts of the BMC have already been considered and approved under SSD 4960. These 20 receivers could only be disadvantaged in the event that open cut operations cease. Whilst this is considered an unlikely scenario, given that open cut operations are expected to continue beyond the approved lifespan of the underground mine, underground operations could conceivably continue to operate under the combined noise criteria (see **Table 2**). To address this issue, the Department considers that alternative noise criteria should be imposed under condition 30. The

condition would specify that, in the event that open cut operations cease, underground operations would revert to the alternate criteria in **Table 3** below. Bulga has agreed to this approach. It is anticipated that noise levels would comply with the alternate noise criteria at all identified receivers, with the exception of Receivers 149 and 150, which have already been afforded acquisition rights.

Table 3: Alternate Noise Criteria dB(A)

Location	Day <i>L_{Aeq} (15 min)</i>	Evening <i>L_{Aeq} (15 min)</i>	Night <i>L_{Aeq} (15 min)</i>	Night <i>L_{A1} (1 min)</i>
All privately-owned residences	35	35	35	45

Subject to this provision, the Department is satisfied that condition 30 of Schedule 4 should be amended by substituting the respective tables, and clarifying that the criteria in **Table 2** apply to the complex as a whole.

The Department notes that these changes also have implications for the mitigation rights afforded under the consent. Condition 31 of Schedule 4 requires Bulga to implement additional noise mitigation measures upon receiving a written request from:

- a landowner of the land listed in Table 1 (unless the landowner has requested acquisition); or
- a landowner of residence/land 8, 157, 179, 195, 232, 234, 235, 237, 239, 240, 249, 261, 262 or 307 (unless a negotiated agreement is in place); or
- the owner of any other residence where subsequent operational noise monitoring shows the noise generated by the development is greater than, or equal to, 38 dB(A) *L_{Aeq}(15 minute)* (unless a negotiated agreement is in place).

Twelve of the receivers listed above (Receivers 8, 157, 179, 195, 232, 234, 235, 237, 239, 240, 261 and 262) have also been afforded mitigation rights under SSD 4960. It is also noted that all but one of these receivers (Receiver 8), have noise criteria below 38 dB(A) *L_{Aeq} (15 min)* under **Table 2**. The remaining two receivers are ineligible for additional mitigation rights, given that these properties are either unsuitable for dwelling construction (Receiver 249) or mine-owned (Receiver 307). On this basis, the Department considers that dot point 2 of condition 31 should also be removed. The current mitigation rights afforded to Receiver 8 would be maintained under the third dot point of condition 31, and under the equivalent condition for the BOP.

Condition 32, Schedule 4

Condition 32 of Schedule 4 requires Bulga to implement all reasonable and feasible measures to ensure that noise generated by underground operations, in combination with noise from other mines in the locality, does not exceed specified amenity criteria at any residence on privately-owned land, or on more than 25 percent of any privately-owned land. Bulga contends that this condition is unnecessary, given that no equivalent condition was imposed under SSD 4960. Moreover, Bulga argues that it is 'extremely unlikely' that underground operations will ever trigger an exceedance of the specified amenity criteria.

Whilst the condition does not require Bulga to comply with the specified criteria, it does require the company to implement 'all reasonable and feasible measures' to ensure that the cumulative noise impacts of mining operations in the locality do not exceed the specified amenity criteria. Such measures would include, for example, noise monitoring of a sufficient intensity to distinguish between noise emanating from the underground operations and noise from other mines in the locality (including the Bulga open cut mine, as well as the Wambo and Warkworth complexes), and from other non-mine related noise sources (which would fall outside the scope of the condition, and therefore be subtracted from the monitoring results). Where any exceedances of the cumulative noise criteria are observed, the condition would then require Bulga to take active steps to reduce cumulative noise emissions. This would require either a curtailing of underground operations, or coordination between the various mines in the locality to reduce peaks in noise generation. It is questionable whether either option could be considered "reasonable" or "feasible", given that the Bulga Underground Mine is a relatively minor contributor to overall noise levels in the locality.

The predominant noise sources are mobile equipment operating at elevated levels on the various open cut operations. However, no equivalent condition has been imposed in more contemporary consents on these open cut operations. Moreover, the noise impacts associated with Bulga's underground operations have already been assessed and mitigated under other existing conditions. For example, condition 29 of Schedule 4 affords acquisition rights to any privately-owned residence where noise generated by the development exceeds specified criteria. Similarly, SSD 4960 affords

mitigation and acquisition rights to specific residences where exceedances were predicted as part of the combined noise assessment.

The Department remains mindful of the need for Bulga to make reasonable efforts to minimise noise associated with its operations, irrespective of any noise criteria imposed. However, this is already reflected in condition 32B of Schedule 4, which requires Bulga to "implement all reasonable and feasible best practice noise mitigation measures."

On this basis, the Department considers that the cumulative noise impacts of the development can be managed under the other existing conditions of consent, in the absence of condition 32, without any adverse impacts on surrounding private residences. Consequently, the Department is satisfied that the condition can be removed.

Condition 32A, Schedule 4

Condition 32A of Schedule 4 affords acquisition rights for privately-owned properties where cumulative noise generated by the development, in combination with other mines, exceeds specified acquisition criteria. As with condition 32, Bulga has requested the deletion of condition 32A, on the basis that it is unnecessary, and inconsistent with SSD 4960.

It is noted that SSD 4960 affords land acquisition and mitigation rights to surrounding landowners where exceedances were predicted by the combined noise assessment. Given that noise associated with underground operations is unlikely to trigger an exceedance of the cumulative noise criteria under condition 32A, and that SSD 4960 provides suitable protection for affected residences, the Department is satisfied that this condition should also be removed.

5.2 Biodiversity

The proposed modification also seeks to amend conditions 43 and 44 of Schedule 4, which provide as follows:

Habitat Creation and Conservation

43. *The Applicant shall:*
- (a) *take all practicable measures to minimise vegetation clearing during the development, and wherever practicable, avoid clearing the existing woodland vegetation on site;*
 - (b) *establish and maintain the proposed flora and fauna corridors on site (see Figure 12.2 of the EIS);*
 - (c) *investigate the feasibility of extending these corridors into the proposed voluntary conservation area (see Figure 12.2 of the EIS);*
 - (d) *conserve and maintain the existing Warkworth Sands Woodland ecological community (see Figure 12.1 of the EIS);*
 - (e) *investigate the potential distribution of the Warkworth Sands Woodland ecological community on company owned land on and adjacent to the site, and consider options for providing long-term protection to the existing and potential areas of the Warkworth Sands Woodland ecological community;*
 - (f) *Re-establish and maintain riparian vegetation along the northern and southern drainage lines following remedial works (see Figures 7.2 & 7.3 of the EIS); and*
 - (g) *Create temporary aquatic habitat in the proposed northern diversion channel during creek restoration works (see Figures 7.2 & 7.3 of the EIS), and re-establish and maintain aquatic habitat following remedial works in the northern and southern drainage lines (see Figures 7.2 & 7.3 of the EIS); and*
 - (h) *Conduct regular flora and fauna monitoring on site during the development, to the satisfaction of the Director-General.*

Flora & Fauna Management Plan

44. *Within 12 months of the date of this consent, the Applicant shall prepare a Flora & Fauna Management Plan for the development, in consultation with the Hunter Coalfield Flora and Fauna Advisory Committee, and to the satisfaction of the Director-General. This plan must include:*
- (a) *baseline data of the existing habitat on site;*
 - (b) *a detailed description of what measures would be implemented to satisfy the requirements in Condition 43;*
 - (c) *performance/completion criteria for the habitat creation and conservation works;*
 - (d) *the detailed procedures to:*
 - *salvage and reuse material from the site;*
 - *clear vegetation on site;*

- control erosion and sediment flows;
 - collect and propagate seeds from the local area;
 - control weeds;
 - control access to certain areas on site;
 - manage any potential conflicts between flora and fauna and Aboriginal heritage
- (e) a flora and fauna monitoring program; and
- (f) a description of who would be responsible for monitoring, reviewing, and implementing the plan.

Bulga proposes to substitute the above conditions with the more contemporary Biodiversity Management Plan (BMP) requirement, as imposed under condition 34 of Schedule 3 of SSD 4960. Bulga has already developed a combined BMP for the complex, which aims to satisfy the requirements of DA 376-8-2003 and SSD 4960. This plan has been approved by the Secretary.

Condition 43, Schedule 4

Some aspects of condition 43 have been effectively superseded by SSD 4960 and the approved BMP. For example, the flora and fauna corridors referred to in condition 43(b) and (c) and shown in **Figure 2**, have been replaced by more substantial vegetation communities under the BMP (see **Figure 3**).

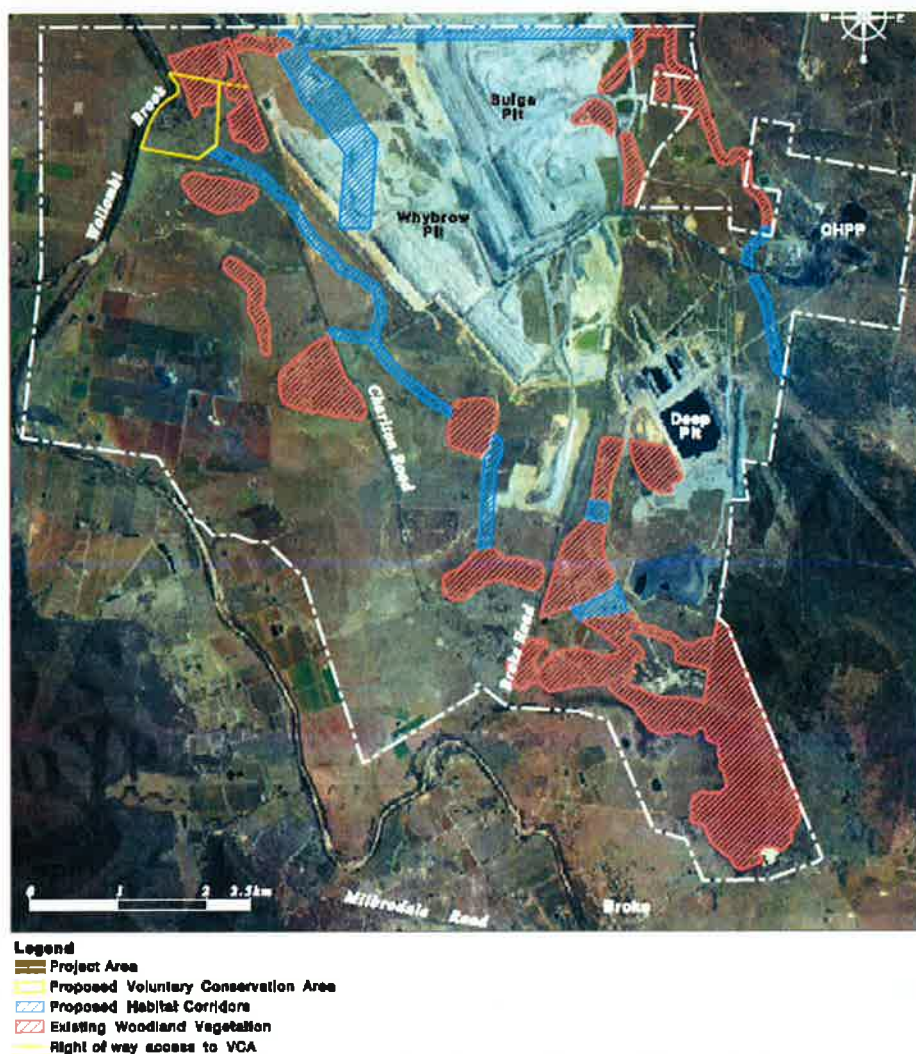


Figure 2: Flora and Fauna (Habitat) Corridors

Similarly, the requirement in condition 43(d) to conserve and maintain the existing Warkworth Sands Woodland ecological community has been superseded. The existing community now falls within the extended Wollombi Brook Conservation Area, which forms part of Bulga's Biodiversity Offset Strategy for SSD 4960. This Strategy requires Bulga to not only conserve and maintain, but also to enhance, the existing Warkworth Sands Woodland EEC.

Condition 43 also refers to remedial drainage works within the northern and southern drainage lines which were proposed under the original EIS. The condition requires Bulga to create temporary aquatic habitat during creek restoration works, and to re-establish and maintain riparian vegetation following the conclusion of works. These requirements are no longer relevant. Subsequent discussions between Bulga and the former NSW Office of Water concluded that the proposed diversion channel would be of little benefit and would cause unnecessary ground disturbance.

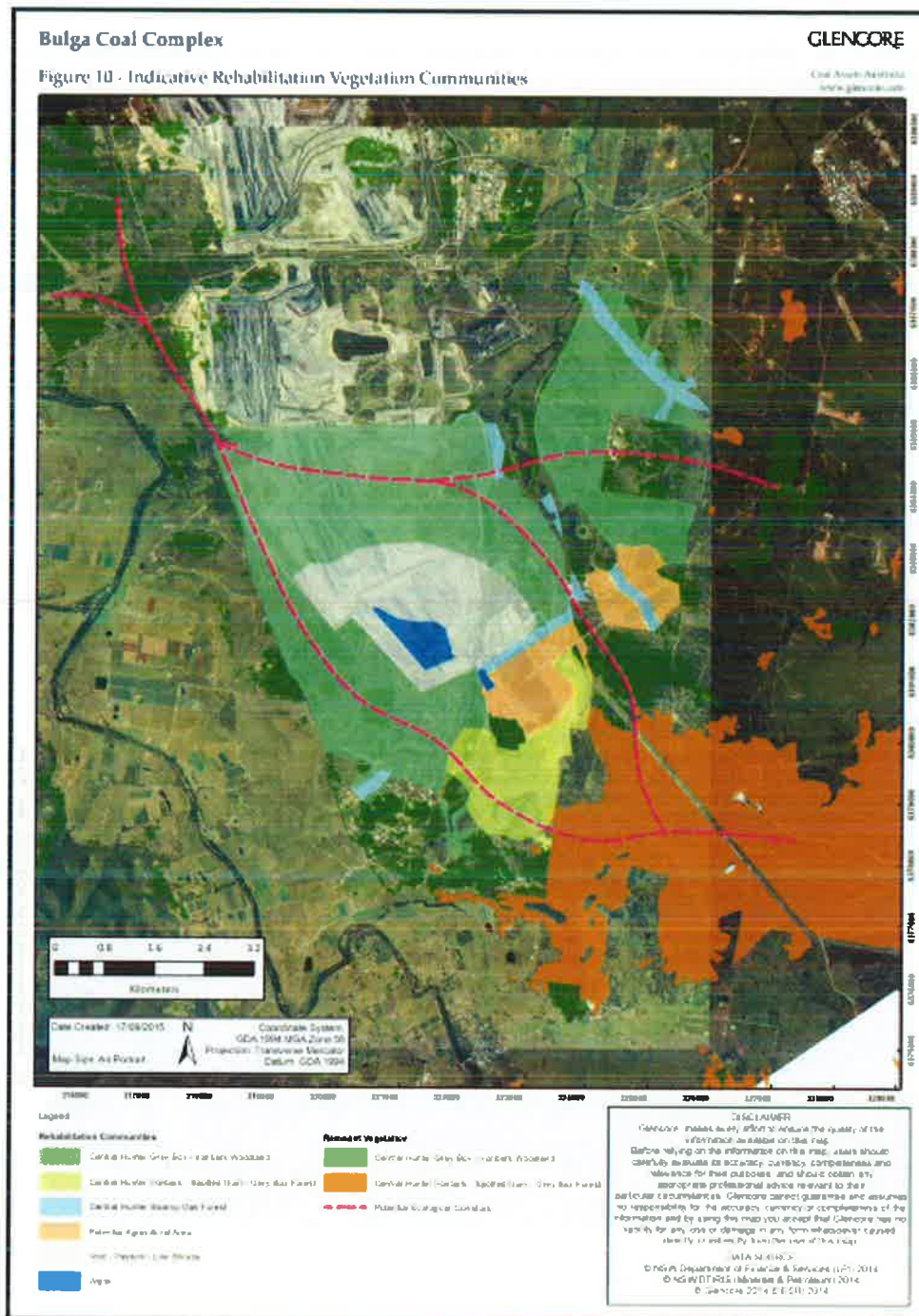


Figure 3: Proposed Rehabilitation Vegetation Communities

Therefore, the work did not proceed. Much of the northern drainage line is now located within Bulga's approved noise and visual bund area, which incorporates a dirty water drainage channel in place of the diversion channel. There are a number of other conditions under DA 376-8-2003 and SSD 4960 which require the maintenance of riparian vegetation, and these requirements have been incorporated into Bulga's approved BMP.

Notwithstanding these inconsistencies, the Department is of the opinion that condition 43 should be amended to better reflect the requirements of SSD 4960, and provide greater consistency with

Bulga's approved management plans, rather than replaced in its entirety. In particular, the Department is satisfied that paragraphs (f) and (g), which relate to the remedial drainage works, can be deleted. Secondly, paragraphs (b), (c) and (d) should be amended to reflect the expanded conservation area and rehabilitation communities approved under the BMP. Finally, paragraphs (a), (e) and (h) should remain unchanged. Bulga contends that these requirements are unnecessary as they have already been addressed by the BMP. However, the Department is of the view that these paragraphs should remain, to ensure that these requirements are incorporated in any subsequent revision of the BMP. The Department is satisfied that this approach conserves the original intent of the condition, while linking these requirements with those of SSD 4960.

Condition 44, Schedule 4

Condition 44 does not align with the Department's current drafting standards. For example, the condition requires consultation with the Hunter Coalfield Flora and Fauna Advisory Committee, which was never formed. As condition 44 is now outdated, the Department is satisfied that it should be replaced with the more contemporary Biodiversity Management Plan condition imposed under SSD 4960, subject to some minor adjustments. In particular, all references to the Bulga's Biodiversity Offset Strategy will need to be removed, as these relate solely to SSD 4960, and not DA 376-8-2003.

5.3 Other impacts

The Department is satisfied that the other impacts of the proposed modification are likely to be minor. In addition to the proposed changes to noise and biodiversity conditions, Bulga is also seeking to synchronise the Independent Environmental Audit requirements for the open cut and underground operations. Under DA 376-8-2003, the next audit for underground operations is due in June 2018, and every three years thereafter. Under the proposed modification, the audit would be due in December 2018, and every three years thereafter.

Condition 11A of Schedule 3 states that Bulga may, subject to the approval of the Secretary, integrate any audits or reports required under the consent with any similar audits or reports required for other components of the BMC. The proposed modification will simply formalise this arrangement. As the underground and open cut components share a common Environmental Management Strategy, Mining Lease and Environmental Protection Licence, the Department considers that a coordinated approach to the auditing process is much to be preferred. Therefore, the Department supports the proposed change.

6. RECOMMENDED CONDITIONS

The Department has drafted a recommended Notice of Modification (see **Appendix C**) and a consolidated version of the consent as it is proposed to be modified (see **Appendix D**). The Department considers that the environmental impacts of the project can continue to be managed through the amended conditions of consent.

The Department has taken the opportunity to update the full suite of conditions to reflect its current drafting standards, and to provide greater consistency with SSD 4960. This includes:

- updating definitions to reflect current agency names and terminology;
- updating numerical references to land subject to acquisition to align with the updated Receiver Location Plan in Appendix 2;
- adding notations to indicate which affected properties have been subsequently acquired by Bulga;
- correcting a minor drafting error in condition 32C which incorrectly refers to the criteria in Table 13 as "Construction Noise Assessment Criteria", rather than "Noise Impact Assessment Criteria";
- adjusting the Noise Compliance Assessment requirements in Appendix 4 improve consistency with SSD 4960;
- providing consistent references to supporting documents, including the various Environmental Assessments and Statements of Environmental Effects, throughout the consent;
- replacing the word 'shall' with 'must';
- providing that the various management plans must be 'implemented from time to time as required by the Secretary'; and
- replacing Schedule 6 in its entirety to reflect contemporary requirements for the preparation of an Environmental Management Strategy, and conducting Annual Reviews and Independent Environmental Audits.

Bulga has considered a copy of the recommended conditions and provided feedback. The Department has considered these comments in finalising the recommended conditions.

7. CONCLUSION

The Department has assessed the merits of the proposed modification in accordance with the requirements of the EP&A Act. This assessment has concluded that the conditions of DA 376-8-2003 can be modified without any adverse environmental impacts. This proposed modification would provide greater consistency between the two development consents, and increased clarity with respect to Bulga's compliance obligations. The Department is therefore satisfied that the proposed modification is in the public interest and is approvable, subject to conditions.

8. RECOMMENDATION

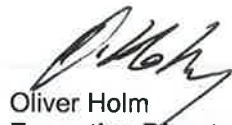
It is recommended that the Planning Assessment Commission, as delegate of the Minister for Planning:

- **considers** the findings and recommendations of this report, noting that the Department considers that the modification is approvable, subject to conditions;
- **determines** that the proponent's request is a modification under section 75W of the EP&A Act; and
- if the Commission determines to modify the approval, **signs** the attached notice of modification (**Appendix C**).



Howard Reed
Director
Resource Assessments

28.11.16



Oliver Holm
Executive Director
Resource Assessments and Compliance

30/11/16

APPENDIX A – ENVIRONMENTAL ASSESSMENT

Refer to the Department's website:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7759

APPENDIX B – SUBMISSIONS

Refer to the Department's website:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7759

APPENDIX C – NOTICE OF MODIFICATION

APPENDIX D – CONSOLIDATED PROJECT APPROVAL