

# Rix's Creek North Coal Mine Modification 9

Landform, Exploration and Blasting Modification State Significant Development Modification Assessment (MP 08\_0102 MOD 9)

February 2021



NSW Department of Planning, Industry and Environment | dpie.nsw.gov.au

Published by the NSW Department of Planning, Industry and Environment

#### dpie.nsw.gov.au

Title: Rix's Creek North Coal Mine Modification 9

Subtitle: Landform, Exploration and Blasting Modification

Haul road at Rix's Creek North open cut coal mine, NSW (AECOM, 2018)

© State of New South Wales through Department of Planning, Industry and Environment 2021. You may copy, distribute, display, download and otherwise freely deal with this publication for any purpose, provided that you attribute the Department of Planning, Industry and Environment as the owner. However, you must obtain permission if you wish to charge others for access to the publication (other than at cost); include the publication in advertising or a product for sale; modify the publication; or republish the publication on a website. You may freely link to the publication on a departmental website.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (February 2021) and may not be accurate, current or complete. The State of New South Wales (including the NSW Department of Planning, Industry and Environment), the author and the publisher take no responsibility, and will accept no liability, for the accuracy, currency, reliability or correctness of any information included in the document (including material provided by third parties). Readers should make their own inquiries and rely on their own advice when making decisions related to material contained in this publication.

## **Glossary**

Abbreviation	Definition
Council	Singleton Council
Crown Lands	Crown Lands, DPIE
Department	Department of Planning, Industry and Environment
EPA	Environment Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPI	Environmental Planning Instrument
EPL	Environment Protection Licence
ESD	Ecologically Sustainable Development
Heritage	Heritage NSW, Department of Premier and Cabinet
LEP	Local Environmental Plan
MEG	Regional NSW – Mining, Exploration and Geoscience
Minister	Minister for Planning and Public Spaces
Planning Secretary	Secretary of the Department of Planning, Industry and Environment
SEPP	State Environmental Planning Policy
SSD	State Significant Development

## **Executive Summary**

Bloomfield Collieries Pty Limited (Bloomfield) owns and operates the Rix's Creek North open cut coal mine (Rix's Creek North), located 5 kilometres northwest of Singleton in the Hunter Valley. Rix's Creek North operates under development consent MP 08\_0102, originally approved in 2010 under the former Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Bloomfield also owns and operates the Rix's Creek South open cut coal mine (Rix's Creek South), located immediately south of Rix's Creek North. Bloomfield operates Rix's Creek North and Rix's Creek South as a single integrated complex.

On 29 April 2020, Bloomfield lodged a modification application pursuant to section 4.55(2) of the EP&A Act to modify the Rix's Creek North development consent (MP 08\_0102). The modification application involves:

- an increase in the overall height of the approved overburden emplacement area within the Camberwell Pit from RL 150 metres (m) to RL 175 m temporarily, before being reduced to RL 165 m in final landform:
- an increase in the approved maximum blasting frequency from two to three blasts per day across Camberwell and Falbrook Pits, while still retaining the current maximum of 10 blasts per week (averaged over a year); and
- exploration activities to be undertaken within existing mining tenements in accordance with the *Mining Act 1992*.

There are no other proposed changes to any other aspect of the approved mining operations, including mining methods, extraction quantities and workforce.

The Minister for Planning and Public Spaces is the consent authority for the proposed modification. However, under the Minister's delegation, the Director, Resource Assessments, may determine the application.

The Department exhibited the modification application from 23 July 2020 until 5 August 2020. The documents were made available to the public on the Department's website. The Department received advice from four public authorities (Singleton Council, Environment Protection Authority (EPA), Mining Exploration and Geoscience and the Resources Regulator). The Department also received 14 public submissions on the modification. Of these, 13 submissions expressed support for the modification. One submission objected to the modification, raising concerns regarding increased dust impacts on nearby receivers, as well as noise and vibration impacts and potential impacts associated with exploration and subsequent mining expansion.

The Department has assessed the modification application in accordance with the requirements of the EP&A Act, with a particular focus on issues relating to air quality, noise and blasting, visual amenity, and rehabilitation and final landform.

The Air Quality Impact Assessment identified that one receiver (a community hall which was assessed as a 'public recreation area') was predicted to experience elevated air quality levels which would exceed the cumulative annual average PM<sub>2.5</sub> and PM<sub>10</sub> criteria for privately-owned dwellings due to the introduction of more prescriptive criteria outlined in the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales 2016.* However, given this receiver is classed as a public recreation area (not a place of residence), it has not been afforded mitigation and/or acquisition rights under the *Voluntary Land Acquisition and Mitigation Policy*.

In addition, the Assessment identified two private landholdings (without existing dwellings) which are predicted to exceed the relevant acquisition criteria under the *Voluntary Land Acquisition and Mitigation Policy*. The Department recommends that these receivers be granted acquisition rights upon request.

The EPA confirmed it was satisfied that the modification is not expected to result in a material change to air quality impacts.

The Noise and Blasting Impact Assessment indicated that monitoring of operations in Falbrook Pit and the implementation of mitigation measures, including partial or complete equipment shutdowns, would allow Bloomfield to maintain compliance with existing criteria during noise enhancing conditions. The Assessment also concluded that the increased blasting frequency would provide Bloomfield with increased flexibility to conduct its blasts during favourable weather conditions, resulting in a likely reduction in blast impacts.

The potential visual impacts of the modification were assessed through the use of photomontages and visual cross-sections from nearby sensitive viewpoints. The Visual Impact Assessment concluded that the minor increase in height of the overburden emplacement would represent a relatively minor change to approved views of the mine. Bloomfield would continue to manage visual impacts in accordance with the current conditions of consent.

The proposed height increase of the overburden emplacement would allow Bloomfield to incorporate micro-relief into the final landform of the Camberwell Pit which is already formed to the maximum approved height. The modification does not involve clearing of any land outside the currently approved disturbance footprint, although it would involve the clearing of approximately 13.5 hectares of rehabilitated pasture. Rehabilitation of the site would continue to be undertaken in accordance with a detailed Rehabilitation Management Plan in order to meet the currently approved final land use.

The Department considers that the modification application would not result in any significant environmental impacts beyond those currently approved and that any residual impacts could be appropriately managed under existing and modified conditions of consent.

Consequently, the Department considers that the proposed modification is in the public interest and should be approved, subject to conditions.

## **Contents**

1	Introduction ·····			
	1.1	Background	7	
	1.2	Approval history	7	
2	Prop	Proposed modification ·····		
	2.1	Height of overburden emplacement	12	
	2.2	Blasting frequency	14	
	2.3	Exploration activities	14	
3	Stat	utory context ······	15	
	3.1	Scope of modifications	15	
	3.2	Consent authority	15	
	3.3	Mandatory matters for consideration	15	
	3.4	Environment protection licence	16	
4	Eng	agement·····	17	
	4.1	Department's engagement	17	
	4.2	Summary of submissions	17	
	4.3	Advice from public authorities	17	
	4.4	Public submissions	18	
	4.5	Response to submissions	18	
5	Ass	essment ·····	19	
	5.1	Air quality	19	
	5.2	Noise and blasting	26	
	5.3	Visual amenity	31	
	5.4	Final landform and rehabilitation	35	
	5.5	Other issues	38	
6	Evaluation4		40	
7	Recommendation41			
8	Determination41			
Appe	endice	98	42	
• • •		endix A – Statement of Environmental Effects		
		Appendix B – Submissions		
		Appendix C – Response to Submissions		
		endix D – Notice of Decision		
	Appe	Appendix E – Notice of Modification		
	Appe	endix F – Consolidated Consent	42	

## 1 Introduction

## 1.1 Background

Bloomfield Collieries Pty Limited (Bloomfield) owns and operates the Rix's Creek North open cut coal mine (Rix's Creek North), located 5 kilometres northwest of Singleton in the Hunter Valley (see **Figure 1**).

## 1.2 Approval history

Mining at the site was first approved in 1990 under DA 86/2889 (the Camberwell consent) and an extension to mining operations was approved in 2008 under MP 06\_0073 (the Glennies Creek consent). The Camberwell consent and Glennies Creek consent were consolidated and replaced in 2010 by MP 08\_0102 (the Rix's Creek North consent [formally the Integra Open Cut]), originally approved under the former Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Bloomfield acquired Rix's Creek North from Glencore Coal Pty Ltd in 2015.

Under MP 08\_0102, Bloomfield is permitted to extract up to 1.5 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal from the Northern Mining Area (the Falbrook Pit), and 4.5 Mtpa from the Western Mining Area (the Camberwell Pit), until the end of December 2035.

Bloomfield also owns and operates the Rix's Creek South open cut coal mine (Rix's Creek South), located immediately south of Rix's Creek North (see **Figure 1**).

Bloomfield implements operational efficiencies between Rix's Creek North and Rix's Creek South to form a single integrated complex (the Complex). The development consents for the Complex (SSD 6300 and MP 08\_0102) allow the transportation of ROM coal between each site's respective Coal Handling and Preparation Plant (CHPP) for processing and dispatch from their associated loading facilities.

The approval history is further summarised below in **Table 1** below and the approved development layout is shown on **Figure 2**.

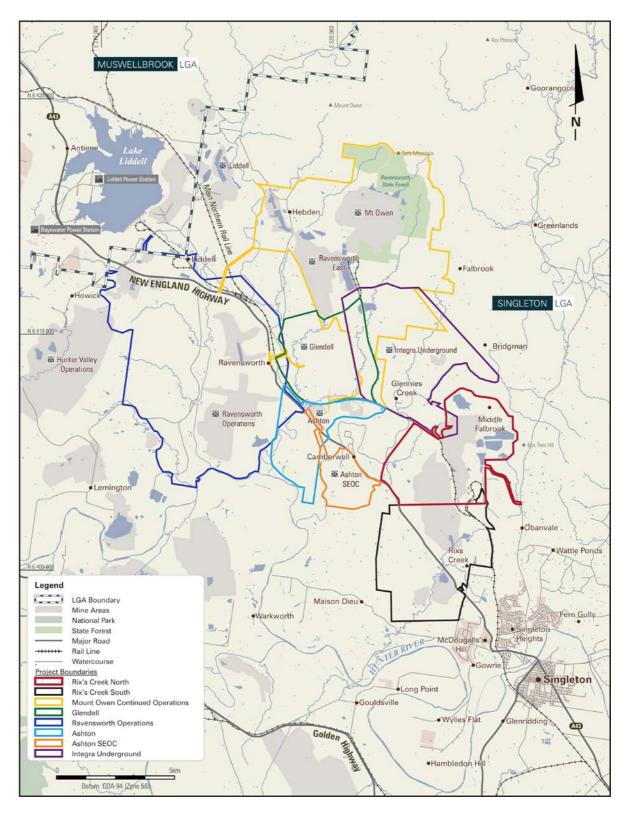


Figure 1 | Regional Context

Table 1 | Summary of approvals and modifications

Approval / Modification	Project	Approval Date	Description
MP 08_0102	Rix's Creek North (formally the Integra Open Cut)	26 November 2010	<ul> <li>Consolidate previous consents/approvals into a single project approval;</li> <li>Underground mining of Middle Liddell, Hebden and Barrett coal seams extracting up to 4.5 Mtpa of ROM coal;</li> <li>Open cut mining extracting up to 6 Mtpa of ROM coal (1.5 Mtpa in Northern pit and 4.5 Mtpa in Western pit); and</li> <li>Continued use of ancillary surface infrastructure including CHPP, coal loader and rail loop</li> </ul>
Mod 1		18 March 2012	<ul> <li>Extend north open cut overburden emplacement area;</li> <li>Extend the timeframe for submission of biodiversity strategy and installation of overland conveyor</li> </ul>
Mod 3		5 October 2012	<ul> <li>Further extension of time for installation of overland conveyor and to secure biodiversity offset</li> </ul>
Mod 2		1 February 2013	<ul> <li>Remove requirement for overland conveyor; and</li> <li>Extend timeframe for provision of long-term security of biodiversity offset areas</li> </ul>
Mod 4		24 February 2016	Revise biodiversity offset areas
Mod 5		26 February 2016	<ul> <li>Allow transport and processing of ROM coal between Integra Open Cut and Rix's Creek South</li> </ul>
Mod 6		23 August 2016	<ul> <li>Separate the Complex's consolidated project approvals into two separate approvals for underground (now owned by Glencore Coal Pty Ltd) and open cut operations (ownership retained by Bloomfield)</li> </ul>
Mod 7		1 September 2017	<ul> <li>Undertake exploration drilling at Rix's Creek North; and</li> <li>Emplace overburden and dried tailings from Rix's Creek South CHPP in overburden dumps at Rix's Creek North</li> </ul>
Mod 8		3 April 2019	<ul> <li>Extend the approved open cut mining limit</li> </ul>

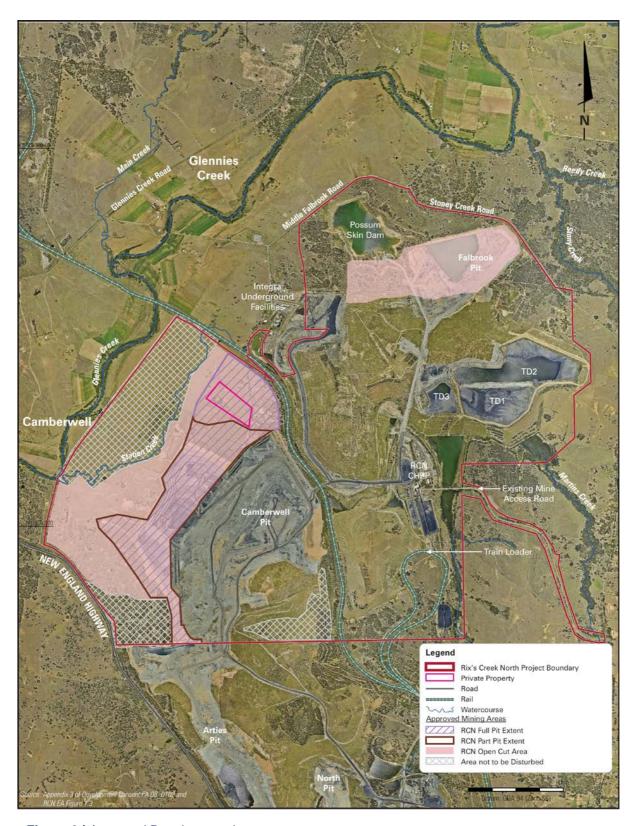


Figure 2 | Approved Development Layout

## 2 Proposed modification

On 29 April 2020, Bloomfield lodged a modification application pursuant to section 4.55(2) of the EP&A Act to modify the Rix's Creek North development consent (MP 08\_0102).

The proposed modification (MOD 9) involves:

- increasing the overall height of the approved overburden emplacement area within the Camberwell Pit (see **Table 2**);
- increasing the approved maximum blasting frequency from two to three blasts per day; and
- undertaking exploration activities within existing mining tenements.

The key proposed changes are summarised in **Table 2** below. A detailed description of the modification is provided in the Statement of Environmental Effects (SEE) that accompanied the application (see **Appendix A**).

Table 2 | Comparison of approved and proposed developments

Component	Approved development	Proposed modified development
Mine life	31 December 2035	No change
Mining method	Open cut mining (truck and shovel)	No change
Mining rate (ROM coal)	<ul> <li>Up to 4.5 Mtpa from Camberwell Pit</li> <li>Up to 1.5 Mtpa from Falbrook Pit</li> </ul>	No change
Disturbance Area	As shown on Figure 2	No change
Overburden Emplacement	<ul> <li>Overburden emplacement within Camberwell Pit to RL 150 m</li> <li>Overburden emplacement within Falbrook Pit to RL 141 m</li> </ul>	<ul> <li>Temporary height increase of overburden emplacement in Camberwell Pit to RL 175 m (shaped and reduced to RL 165 m in final landform)</li> <li>No change to overburden emplacement in Falbrook Pit</li> </ul>
Coal transport	Rail transport of up to 7.3 Mtpa of product coal to Newcastle	No change
Employment	Operational workforce of up to 250 personnel	No change

Component	Approved development	Proposed modified development
Operational hours	<ul> <li>24 hours per day, 7 days per week in Camberwell Pit</li> <li>7 am to 10 pm, 7 days per week in Falbrook Pit</li> </ul>	No change
Water Management	As per the approved Rix's Creek Mine Water Management Plan.	No change
Blasting frequency	<ul> <li>Maximum of 1 blast per day in Camberwell Pit and 1 blast per day in Falbrook Pit</li> <li>Up to 10 total blasts per week (averaged over a year)</li> </ul>	<ul> <li>Increase in maximum number of blast events up to 3 blasts per day across Camberwell and Falbrook Pits</li> <li>No change to total blasts per week (averaged over a year)</li> </ul>
Exploration activities	Eight drill holes within areas of the site mapped as not being disturbed by open cut mining (see <b>Figure 2</b> )	Additional exploration activities to be undertaken within areas of the site mapped as not being disturbed by open cut mining (see <b>Figure 2</b> )

RL = reduced level.

## 2.1 Height of overburden emplacement

At the time of acquisition of the Integra Open Cut Mine by Bloomfield in 2015, large areas of the Camberwell Pit overburden emplacement (see **Figure 3**) had already been formed to a maximum height of RL 150 m. The currently developed final landform includes a plateau approximately 900 m long and 500 m wide at RL 150 m.

The conditions of development consent MP 08\_0102 were revised on 23 August 2016 following approval of MOD 6. As part of the revised conditions, Schedule 3 Condition 50, requires Bloomfield to create "final landforms designed to incorporate micro-relief and integrate with the surrounding natural landforms".

The landform existing at the time of the MOD 6 approval negated the possibility of certain areas such as the plateau being subject to micro-relief or integration with the surrounding landforms without a further modification to PA 08\_0102. As a result, Bloomfield is seeking to modify the approved height of the overburden emplacement in the Camberwell Pit to allow incorporation of micro-relief and provide a free draining landform. The revised conceptual final landform is shown on **Figure 3.** 

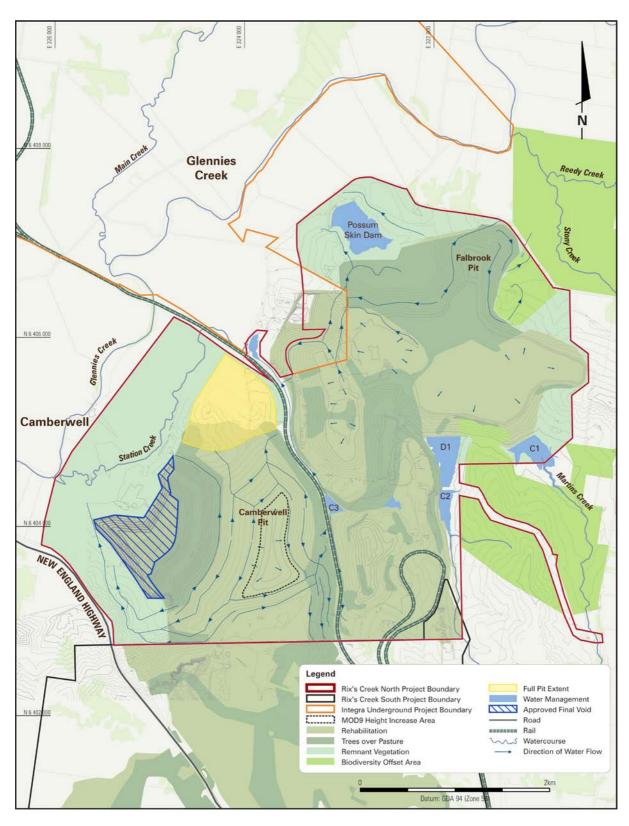


Figure 3 | Modified conceptual final landform

### 2.2 Blasting frequency

Bloomfield has conducted a review of the impact to mining operations imposed by the current blasting limits and environmental factors which dictate when a blast is able to be safely carried out in accordance with existing conditions of consent and the site's approved Blast Management Plan.

Bloomfield identified that environmental factors, including wind speed and direction and inversion conditions, ruled out approximately 64 percent of possible blasting windows, resulting in only two days a week, and seven days a month, when blasting can be conducted.

As such, Bloomfield is seeking to increase the number of blast events allowed in a day from two to three. Bloomfield is not proposing any changes to the approved maximum number of blast events per week. This change would allow Bloomfield to take advantage of blasting windows as they occur and optimise days when the environmental conditions are most favourable to improve the operational efficiency of the site.

## 2.3 Exploration activities

Bloomfield intends to undertake exploration activities within its existing mining authorities, including activities within the area mapped as not being disturbed by open cut mining in **Figure 2**.

This modification would provide Bloomfield with the ability to undertake exploration activities in accordance with the *Mining Act 1992* (the Mining Act). No exploration activities would occur within the Biodiversity Offset Areas required under Schedule 3 Conditions 37 and 38 and illustrated in Appendix 8 of MP 08\_0102.

## 3 Statutory context

### 3.1 Scope of modifications

MP 08\_0102 was originally granted by the Minister under Part 3A of the EP&A Act. Recent amendments to the EP&A Act include provisions to wind up the transitional provisions of the former Part 3A, which was otherwise repealed in 2011. As part of this process, Part 3A project approvals are being transitioned to State Significant Development (SSD).

On 1 June 2018, MP 08\_0102 was declared to be SSD under clause 6 of Schedule 2 of the *Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017*. Accordingly, this modification application has been lodged under section 4.55(2) of the EP&A Act.

Under section 4.55(2)(a), MP 08\_0102 cannot be modified unless the consent authority is satisfied that the modified proposal is substantially the same as the development for which consent was originally granted.

The proposed modification involves an increase in overburden emplacement height by 25 m in a small area of the site to improve the topographic relief in this area and an increase in blasting frequency from two to three blasts per day. As shown in **Table 1**, most key aspects of the approved development would remain unchanged. The proposed modification would not increase the approved annual extraction or production rates, alter mining methods or product transportation or extend the approved mine life or hours of operation. Consequently, the Department considers that the modification is within the scope of section 4.55(2) and may be determined accordingly.

## 3.2 Consent authority

The Minister for Planning and Public Spaces is the consent authority for the application. However, the Director, Resource Assessments may determine the application under the Minister's delegations of 9 March 2020, as there were fewer than 10 unique public objections, Singleton Council (Council) did not object to the proposed modification and Bloomfield has not disclosed any reportable political donations.

#### 3.3 Mandatory matters for consideration

## **Environmental Planning Instruments**

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

- State Environmental Planning Policy (State and Regional Development) 2011;
- State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (the Mining SEPP); and
- Singleton Local Environmental Plan 2013.

The Department has considered the proposed modification against the relevant provisions of these instruments. The Department has also considered Bloomfield's consideration of relevant instruments in its SEE. The Department considers that the proposed modification can be carried out in a manner that is generally consistent with the aims, objectives and provisions of these instruments.

### **Objects of the EP&A Act**

The consent authority must consider the objects of the EP&A Act when making decisions under the Act. The Department has assessed the proposed modification against the current objects of the EP&A Act. The objects of most relevance to the decision on whether or not to approve the proposed modification are found in section 1.3 of the Act. They are:

- Object 1.3(a): to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources;
- Object 1.3(b): to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,
- Object 1.3(c): to promote the orderly and economic use and development of land;
- Object 1.3(e): to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats;
- Object 1.3(f): to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage);
- Object 1.3(i): to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State; and
- Object 1.3(j): to provide increased opportunity for community participation in environmental planning and assessment.

The Department considers that the proposed modification encourages the proper management and development of resources (Object 1.3(a)) and the promotion of the orderly and economic use of land (Object 1.3(c)). The proposal would optimise resource recovery under MP 08\_0102, while utilising Bloomfield's established infrastructure and workforce.

The Department has considered the principles of ecologically sustainable development (ESD, Object 1.3(b)) in its assessment of the proposed modification. The Department considers that the proposed modification may be carried out in a manner that is consistent with the principles of ESD. The Department's assessment has sought to integrate all significant environmental, social and economic considerations.

The Department has carefully considered the environmental impacts of the proposed modification, including potential impacts on the natural, cultural and built environments (Object 1.3(e) and (f)). The key findings of the Department's assessment are summarised in **Section 5**.

The Department publicly exhibited the modification application and consulted with Council (Object 1.3(i) and (j)). The outcomes of the consultation process are outlined in **Section 4**.

#### 3.4 Environment protection licence

Bloomfield holds Environment Protection Licence (EPL) 3391 under the *Protection of the Environment Operation Act 1997* (POEO Act). Should the modification be approved, Bloomfield would seek a variation to the EPL 3391 under the POEO Act to revise the noise monitoring groups to reflect recent land ownership changes.

## 4 Engagement

## 4.1 Department's engagement

The Department exhibited the modification application and SEE (see **Appendix A**) from 23 July 2020 until 5 August 2020. The documents were made available to the public on the Department's website.

An exhibition notice for the proposed modification was published in the *Singleton Argus* on 22 July 2020. The Department also notified all community members and special interest groups who previously made submissions regarding the Rix's Creek North Project. Finally, the Department notified relevant public authorities (including Government agencies and Council) of the exhibition and requested their advice on the proposal.

The Department considers that the notification process met the requirements of the EP&A Act and Regulation.

## 4.2 Summary of submissions

The Department received a total of 18 submissions in response to the exhibition, including:

- advice from four public authorities;
- 13 public and Special Interest Group submissions in support of the proposal; and
- one public submission objecting to the proposal.

Copies of all submissions are included in **Appendix B**.

### 4.3 Advice from public authorities

**Council** did not object to the proposed modification, however it raised concern regarding air quality impacts on landholders in the vicinity of the site and potential impacts on the land uses (including potential development) within surrounding rural/urban zones under the *Singleton Local Environmental Plan 2013*. Air quality impacts are discussed further in **Section 5.1**.

Council also raised concerns regarding the timing of mine closure planning for the site and recommended Bloomfield develop a final land use strategy within the next five years, to ensure the final land use is achievable and consistent with surrounding land uses. Rehabilitation and mine closure are further discussed in **Section 5.4**.

The **Environment Protection Authority** (EPA) did not object to the proposed modification, however, it raised concerns in relation to the air quality assessment. In particular, EPA requested:

- consideration of all reasonable and feasible mitigation measures until compliance with the EPA's impact assessment criterion can be demonstrated;
- further information regarding the appropriateness of the ambient air monitoring data used in the assessment:

- further justification for the values adopted for estimating emissions from blasting activities and any significant variation from the values adopted in the 2015 Air Quality Impact Assessment (AQIA); and
- justification for the changed approach to modelling emissions from the 2015 AQIA.

Bloomfield provided additional information regarding the potential air quality impacts, including responses to the issues raised by the EPA. After reviewing this information, the EPA confirmed that although some uncertainty associated with the emissions estimates remain, the minor nature of the modification is not expected to result in a material change to dust emissions from the site. Air quality impacts are discussed further in **Section 5.1**.

The EPA confirmed that any remaining uncertainty would be reduced through its recommended conditions. Air quality impacts are discussed further in **Section 5.1**.

**Mining, Exploration and Geoscience** (MEG) and the **Resources Regulator** within Regional NSW both advised that they had no comments on the proposal.

#### 4.4 Public submissions

The Department received 13 submissions in support of the proposal. Twelve of these were provided by members of the general public and one submission was provided by WesTrac Pty Ltd, which supplies machinery for mining operations. These submissions highlighted the benefits of the modified final landform (which would include micro-relief) and increased flexibility to undertake blasting during favourable conditions. These submissions also commented on the positive economic and employment benefits associated with mining operations at the site.

The Department received one submission objecting to the proposal. The Department notes this submission was received from a nearby resident at receiver N18 and raised concerns regarding increased dust impact on nearby receivers and noise and vibration impacts on surrounding dwellings. In relation to these matters, the SEE concluded that, subject to the continued implementation of existing management and mitgation measures, the modified project would continue to comply with the relevant air quality and noise criteria under MP 08\_0102 at this receiver. Air quality and noise and vibration impacts are considered further in **Sections 5.1** and **5.2**, respectively.

The submission also made reference to concerns regarding potential impacts of exploration and subsequent mining expansion. Bloomfield acknowledged these comments and has committed to continued engagement with surrounding landowners and the Community Consultative Committee in relation to its exploration activities and future mining plans as they are developed.

## 4.5 Response to submissions

On 21 September 2020, Bloomfield provided its Response to Submissions (RTS) report to address the issues raised in submissions (see **Appendix C**). The Department accepted the RTS and made it publicly available on the Department's website. The Department also forwarded the RTS to agencies for review and comment. These comments have been considered and addressed in **Section 5** below.

## 5 Assessment

In assessing the merits of the proposed modification, the Department has considered the:

- modification application and accompanying SEE and RTS;
- · agency advice;
- existing conditions of approval, as previously modified;
- · relevant EPIs, policies and guidelines; and
- requirements of the EP&A Act, including the objects of the Act.

The Department considers that the key assessment issues relate to air quality, noise and blasting, visual, and final landform and rehabilitation. A summary of the Department's assessment of these matters is set out in **Sections 5.1 to 5.4**, with other issues assessed in **Section 5.5** below.

## 5.1 Air quality

The SEE included an Air Quality Impact Assessment (AQIA) prepared by Todoroski Air Sciences (TAS). The AQIA was prepared in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales 2016* (Approved Methods 2016).

Bloomfield currently operates under MP 08\_0102 which includes air quality criteria replicated in **Table 3**.

Table 3 | Existing Air Quality Criteria MP 08\_0102

Parameter	Averaging Period	Criterion
PM <sub>10</sub>	24-hour	50 μg/m³
	Annual	30 μg/m³
Total Suspended Particulates (TSP)	Annual	90 μg/m³
Deposited Dust	Annual	2 g/m²/month 4 g/m²/month

The Approved Methods 2016 imposes a more stringent annual average  $PM_{10}$  criterion of 25  $\mu g/m^3$ . Further to this, while MP 08\_0102 is not currently subject to any performance criteria for  $PM_{2.5}$ , the Approved Methods 2016 imposes a 24-hour average criterion of 25  $\mu g/m^3$  and an annual average criterion of 8  $\mu g/m^3$ . These more stringent criteria have been applied in the Department's assessment of the modification.

### **Air Quality Model**

The AQIA provided a detailed analysis of the existing air quality environment within the surrounding locality, based on monitoring data (including real-time data) collected between 2012 and 2019. The model used to assess the air quality impacts of the modification, applied the same methodology and modelled meteorological year (2012) used in the *Air Quality and Greenhouse Gas Assessment Rix's Creek South Continuation of Mining Project* (Rix's Creek South Assessment, TAS 2015).

The EPA raised initial concerns that the ambient air monitoring data used in the AQIA was eight years old. In response, TAS reviewed the average  $PM_{10}$  concentrations from nearby ambient monitoring stations in the Upper Hunter Air Quality Monitoring Network (UHAQMN) over the period 2012 to 2018. The analysis confirmed that more contemporary data do not indicate any significant changes associated with activities around the mine since 2012, other than the normal inter-annual variability. As such, it was determined that use of the 2012 data was likely to overestimate the average dust levels, resulting in an assessment which is considered conservative.

The EPA also queried the apparent variation in emissions estimates, due to blasting activities, between the MOD 9 AQIA and the Rix's Creek South Assessment. TAS confirmed that there was no variation in the approach to estimating the blast emissions and the variation in the emission factor is due to the differing blast areas at the two sites.

Similarly, the EPA queried apparent variations in emissions factors for wind erosion and vehicle traffic on haul roads. As with the blasting emissions, TAS provided further information justifying the emissions factors that were adopted for the assessment and providing clarification on any variation from the Rix's Creek South Assessment.

#### **Air Quality Impacts**

The existing air quality environment surrounding Rix's Creek North has been subject to extensive assessment as part of the original Project Approval and subsequent modifications. Under the existing consent, five receivers have been afforded acquisition and mitigation rights for air quality impacts. In addition to this, due to the proximity of other nearby mining operations, a number of additional receivers in the area surrounding the Rix's Creek North operations are afforded mitigation or acquisition rights under consents for these separate mining operations (see **Appendix A**).

In considering the impacts associated with the proposed modification, the AQIA included assessment of potential air quality impacts on privately-owned and community receivers (see **Figures 4** and **5**) for 2021 (operations occurring in the Camberwell Pit) and 2024 (operations occurring concurrently in the Camberwell and Falbrook Pits). 2024 is the year of maximum production over the duration of the modification and is therefore considered to result in the worst-case operational air quality impacts.

The AQIA identified that the incremental (project only) 24-hour and annual average PM<sub>2.5</sub> and PM<sub>10</sub> concentrations would not exceed the relevant criteria at any privately-owned receiver during either scenario, and that the modified project would comply with the relevant criteria at all other private receivers not already subject to acquisition rights.

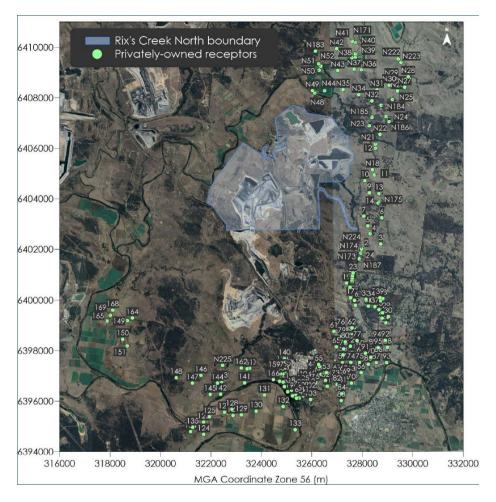


Figure 4 | Privately-owned Receivers

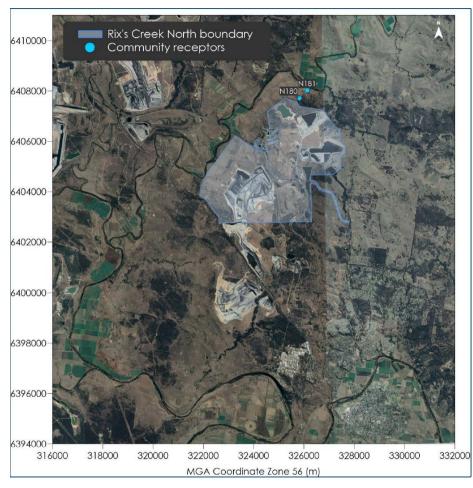
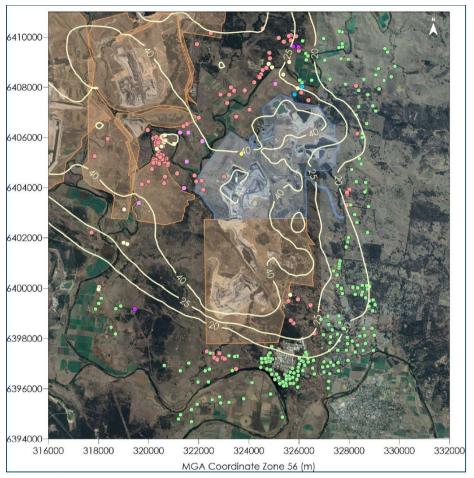


Figure 5 | Community Receivers



326000 328000 330000 332000 See 56 (m)

Figure 7 | Cumulative annual average PM<sub>2.5</sub> contours in 2024

Rix's Creek North boundary Orange Privately-owned receptors Privately-owned receptors Orange PM<sub>2.5</sub> Contours in 2024

Orange PM<sub>2.5</sub> Contours in 2024

ZOA receptors - Noise (other mine)

Mine-owned receptors

6402000-MGA Coordinate Zone 56 (m)

Figure 6 | Cumulative annual average PM<sub>10</sub> contours in 2024

Rix's Creek North Coal Mine Modification 9 (MP 08\_0102 MOD 9) | Modification Assessment Report

Notwithstanding, the Department notes that one receiver (N180 – a community hall [see **Figure 4**]) would experience elevated air quality levels which are predicted to exceed the more stringent criteria for cumulative annual average PM<sub>2.5</sub> and PM<sub>10</sub> of 8  $\mu$ g/m³ and 25  $\mu$ g/m³ respectively during the 2024 scenario (see **Figures 6** and **7**). However, given this receiver is classed as a public recreation area (not a place of residence), it has not been afforded mitigation and/or acquisition rights under the *Voluntary Land Acquisition and Mitigation Policy* (VLAMP).

TAS also predicted the potential annual average impacts of the modified project, including areas where impacts extend over more than 25% of any privately-owned land as required by the VLAMP. The assessment identified that in addition to those receivers already afforded mitigation and acquisition under the current consent, two vacant landholdings to the southeast are predicted to exceed the cumulative annual PM<sub>10</sub> acquisition criteria over 25% of the land (N240 and N234-239) (see **Figure 8**).<sup>1</sup>

In response to comments from Council, Bloomfield confirmed that these landholdings all occur within zone RU1 Primary Production under the *Singleton Local Environmental Plan 2013* (Singleton LEP). None of the landholdings occur within zone R1 General Residential, and none have existing dwellings, although under the Singleton LEP, a dwelling could be built on these lands. The Department has recommended conditions which grant these landholdings acquisition rights upon request.

In addition to particulate matter, the TAS modelling results indicate that no exceedances of the relevant TSP or deposited dust criteria are predicted to occur at any privately-owned receiver not already subject to acquisition rights during the 2021 and 2024 scenarios.

The EPA also noted that 4 receivers (including a community hall and rural fire service shed) would exceed the cumulative 24-hour average  $PM_{10}$  criteria of 50  $\mu g/m^3$ . Bloomfield confirmed that the predicted exceedances at these receivers would be marginal (between 1 and 1.4  $\mu g/m^3$ ) and only occur under worst-case climatic conditions (i.e. with background levels elevated to 44  $\mu g/m^3$ ). The Department notes that these events would not constitute an exceedance of the air quality criteria as interpreted under the VLAMP<sup>2</sup>, as the relevant 24-hour criteria is based on project-only emissions.

With respect to potential air quality impacts associated with proposed exploration, TAS concluded that dust emissions from these activities are not expected to be significant. Although dust may be generated by drilling activities, vehicle movements and exhaust emissions from vehicles and plant, these activities would be temporary and sporadic. Relative to the approved dust generating activities at the site, the impacts are unlikely to be discernible.

TAS also identified that the existing proactive and reactive operational dust mitigation strategies employed by Bloomfield would be effective for managing the mine's predicted  $PM_{10}$  contributions on these occasions. This is commensurate with best practice air quality management as the proactive and reactive strategies are expected to ameliorate any potential predicted impacts.

Receivers N234-239 comprise a single landholding

Under the VLAMP, compliance with the 24-hour average PM<sub>10</sub> criterion is measured incrementally, rather than cumulatively. As such, these predictions would not constitute an exceedance of the relevant air quality criteria. The Department has sought to clarify this in its recommended conditions, which reflect contemporary NSW policy

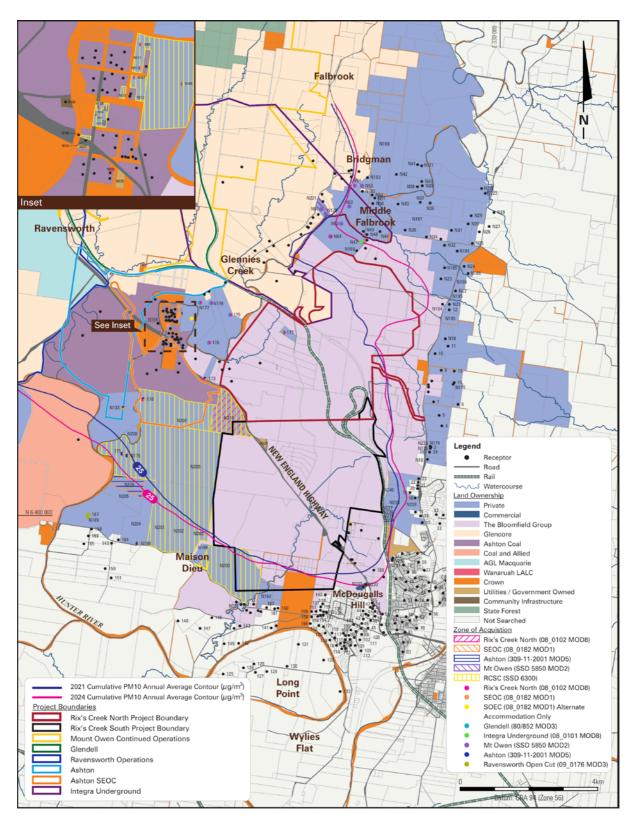


Figure 8 | Cumulative annual average PM<sub>10</sub> contours in Year 2021 and 2024

Existing conditions require Bloomfield to implement an Air Quality and Greenhouse Gas Management Plan (AQGHGMP) to ensure compliance with the relevant air quality performance criteria. Existing management measures which would continue to be implemented for the modification include:

- site inductions to ensure all employees and contractors are aware of dust impacts and management requirements;
- implementation of reactive and proactive management systems;
- watering of haul roads;
- · enforcing speed limits of vehicles on-site;
- visual monitoring of dust levels and modifying (or ceasing) works when elevated dust levels are observed; and
- relocation of overburden emplacement operations during unfavourable weather conditions.

Although the EPA indicated there was still some minor uncertainty regarding the emissions estimates, the EPA confirmed it was satisfied that the modification is not expected to result in a material change to air quality impacts. The Department considers that the responses provided by TAS and Bloomfield provide sufficient justification for the use of the 2012 monitoring data and the variation in emission factors associated with blasting, wind erosion and vehicle traffic adopted for the modification and the Rix's Creek South Assessment. Given this, the Department considers that the AQIA provides a conservative assessment of air quality impacts resulting from the modification.

The Department notes that most of these requirements are already reflected in existing conditions and agrees with the EPA's recommendation to incorporate appropriate additional measures. The Department has recommended that Bloomfield review and update the AQGHGMP to include:

- key performance indicators;
- monitoring methods, including location frequency and duration of monitoring;
- clear and auditable triggers for the implementation of reactive management strategies;
- methods for ongoing review of the AQMP (including the reactive triggers) for informing continual improvement;
- complaint handling procedures;
- methods for documenting the implementation of both proactive and reactive mitigation measures;
   and
- methods for compliance reporting.

In addition to the incorporation of these measures, the Department has sought to contemporise the air quality conditions under MP 08\_0102 to align with those imposed by the Independent Planning Commission in its determination of the Rix's Creek South (SSD 6300). This includes the removal of any consideration of non-compliance with the approved limits and reinforcement of the need for the mine to operate in accordance with the relevant project specific criteria.

#### Conclusion

Overall, the Department has carefully assessed the potential air quality impacts associated with the modification and considers that it would not result in a material change to air quality impacts on surrounding receivers. The Department agrees with the EPA's conclusion that the modification can be suitably managed under amended conditions of consent and an updated AQGHGMP.

### 5.2 Noise and blasting

The SEE included a Noise and Blasting Impact Assessment (NBIA) prepared by Global Acoustics in accordance with the *Industrial Noise Policy* (INP, EPA 2000)<sup>3</sup>. The NBIA predicted the noise levels associated with the modification and assessed them against the operational noise limits and project specific noise criteria stipulated in MP 08\_0102.

Given that Bloomfield would continue to operate within the approved road/rail movement limits, the modification would not result in any increase in traffic noise. Further to this, Global Acoustics concluded that any exploration/construction noise would be negligible relative to the noise generated by the open cut mining operation, and as such, noise associated with these aspects of the modification were not quantitatively assessed.

#### **Operational Noise**

Global Acoustics determined that noise associated with the modification would predominantly be generated by mobile fleet operating at higher elevations on the overburden emplacement within the Camberwell Pit. As such, the NBIA conducted noise modelling to predict noise levels at private receivers during the period when the overburden emplacement would be modified. This included assessment of day, evening and night-time periods for 2021 (operations occurring in the Camberwell Pit) and 2024 (operations occurring concurrently in the Camberwell and Falbrook Pits, noting that operations in the Falbrook Pit are only permitted between 7 am and 10 pm).

The NBIA also considered the cumulative noise impacts associated with the modification and surrounding operations. Global Acoustics concluded that compliance with cumulative noise criteria prescribed in MP 08\_0102 would continue given the proposed mine plan changes associated with the modification are minor, and operations would be managed to ensure compliance with existing project-specific operational noise criteria.

In relation to the project specific impacts arising as a result of the modification, Global Acoustics undertook an assessment of noise impacts to private landholdings in accordance with the VLAMP. The assessment concluded that no additional receivers would be entitled to voluntary land acquisition rights, as noise generated by the project would not exceed acceptable noise amenity levels plus 5 dB over more than 25 percent of any privately-owned land during any of the modelled scenarios.

In considering the above, the Department notes that the 2021 scenario, indicated that the modified project would continue to result in an exceedance of the operational noise criteria at two private receivers (Receiver 1 and Receiver N172). Both of these receivers are already entitled to acquisition upon request under the Rix's Creek South development consent (SSD-6300). There was no predicted exceedance of the existing mitigation and/or acquisition criteria at any other private receivers during the 2021 scenario (see **Figure 9**).

<sup>&</sup>lt;sup>3</sup> As the NBIA assessed the modification against existing consent criteria, the assessment was undertaken in accordance with the INP. Modifying factors (i.e. tonal and intermittent noise and low frequency noise) were also assessed in accordance with Fact Sheet C of the *Noise Policy for Industry*.

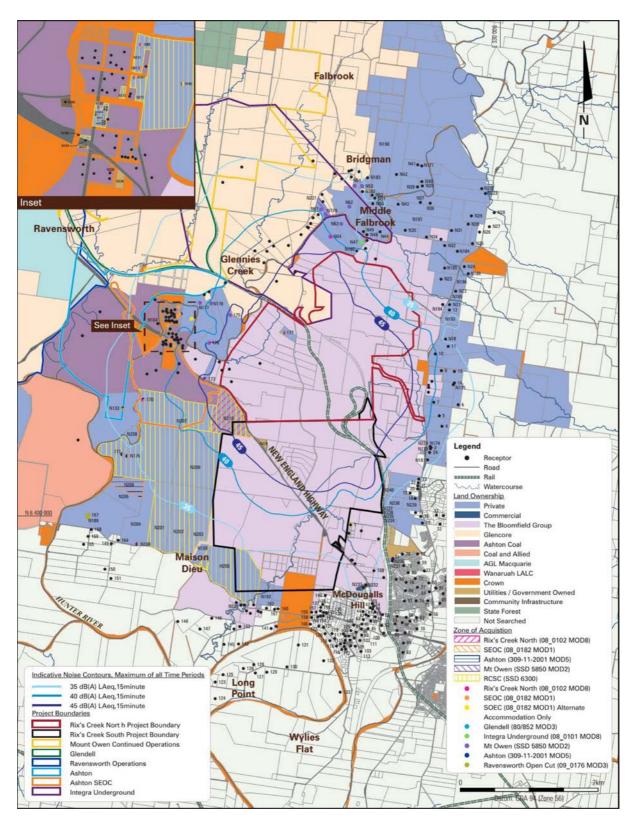


Figure 9 | 2021 Predicted Noise Contours

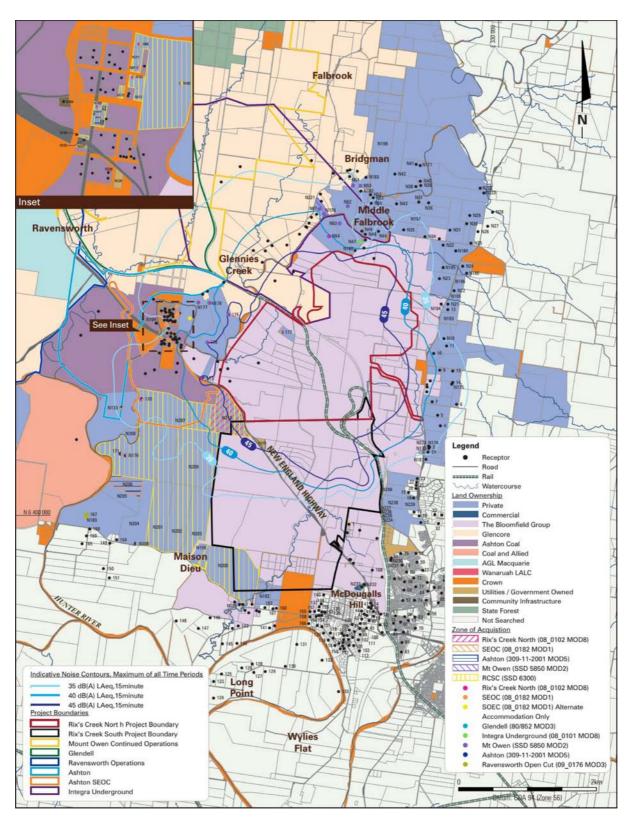


Figure 10 | 2024 Predicted Noise Contours

For the 2024 scenario the modelling indicated that in the absence of any mitigation measures in the Falbrook pit, which is not subject to the proposed modification, there is potential for the project to exceed the operational noise criteria at 19 private receivers. However, the Department notes that these potential exceedances are primarily limited to the evening period during noise enhancing conditions, are associated with aspects of the project that are not subject to the modification and that Bloomfield would need to continue to adaptively manage its operation to address noise impacts at these times.

One of these minor (1 dB) exceedances was predicted at Receiver N44 during the day, without noise enhancing conditions. Bloomfield has confirmed that this predicted minor exceedance is due to the proposed dumping of overburden at the top of the north-eastern emplacement which has direct line of sight to Receiver N44. These are approved activities which are unrelated to the modification application. Global Acoustics has confirmed that, with the implementation of appropriate management measures on the north-eastern emplacement (e.g. restricting dozers to first gear or relocating or shutting down ancillary equipment), Bloomfield will be able maintain compliance at Receiver N44 during operations.

Given the predicted exceedances during noise enhancing conditions, Global Acoustics ran an additional two modelling scenarios representative of modified operations during 2024. These comprised:

- 2024 Evening Scenario 2 Partial shutdown of operations in the Falbrook Pit (i.e. the shutdown of one excavator and associated fleet); and
- 2024 Evening Scenario 3 Complete shutdown of operations in Falbrook Pit.

Modelling of the 2024 Evening Scenario 2 indicated that there would still be some minor exceedances of operational noise criteria, but mitigation and acquisition criteria would not be exceeded. Under the 2024 Evening Scenario 3, Global Acoustics predicted that there would be full compliance at all receivers.

Global Acoustics concluded that the majority of potential exceedances occur due to operations in the Falbrook Pit, which is not subject to the proposed modification, and that these operations would continue to require monitoring and implementation of mitigation controls to ensure Bloomfield maintains compliance with the operational noise criteria during noise enhancing meteorological conditions.

Overall, the Department notes that the incremental noise impacts associated with the modification are predicted to be minor and do not represent a significant increase in noise impacts relative to the existing approved operations. Accordingly, the modified project could continue to be managed under established noise management practices.

In particular, noise mitigation would continue to be implemented through application of the proactive/reactive management strategies and Trigger Action Response Plan (TARP) detailed in the approved Noise Management Plan (NMP). Bloomfield currently uses a predictive noise model to develop half hourly predictions of noise enhancing conditions, allowing it to modify operations and ensure compliance with relevant noise criteria.

The Department recommends that the NMP be updated to incorporate the modification and outline the process which Bloomfield would implement to ensure compliance with the noise criteria, particularly during adverse meteorological conditions. The EPA did not raise any concerns in relation to the proposed noise or blasting impacts and did not recommend any changes to the existing noise conditions.

#### **Blasting**

The NBIA included an assessment of potential blasting impacts associated with the modification. Although Bloomfield is seeking to increase the number of blast events allowed per day, it would continue to operate within the approved maximum number of blast events per week (i.e. 10 blasts per week averaged over a year).

The modification would not change the magnitude of impacts associated with each blast or the resulting overpressure and vibration levels at receivers. It would only change the distribution of these impacts across a weekly period. The modification would provide Bloomfield with increased opportunity to conduct its blasts during favourable weather conditions, and conduct blasting when potential impacts on receivers are lower.

This change would allow Bloomfield to take advantage of blasting windows as they occur and optimise days when the environmental conditions are most favourable to improve the operational efficiency of the site. This would provide further opportunities for adaptive management of Bloomfield's blasting procedures which would in turn likely result in a reduction in blast impacts on nearby sensitive receivers relative to conducting the blast when conditions are less favourable.

The Department also notes that proposed increase in blasting associated with the modification would not require any additional road closures as the Camberwell Pit is located more than 500 m from the New England Highway, and Bloomfield has existing agreements in place with ARTC and all private landholders within 500 m of the proposed blasting locations.

The Department recommends that Bloomfield update the approved Blast Management Plan (BMP) to reflect the modification, and continue to implement the design, management and monitoring protocols outlined in the BMP to ensure ongoing compliance with approved blasting criteria.

#### Conclusion

The Department has carefully assessed the potential noise and blasting impacts associated with the modification. Overall, the Department considers these impacts can be suitably managed under an updated NMP and BMP.

In addition, the Department has sought to contemporise the noise conditions under MP 08\_0102 to align with those imposed by the Independent Planning Commission in its determination of the Rix's Creek South (SSD 6300). This includes the removal of any consideration of non-compliance with the approved limits and reinforcement of the need for the mine to operate in accordance with the relevant project specific criteria.

### 5.3 Visual amenity

The SEE included a Visual Impact Assessment (VIA) which was prepared to assess the visual impact of the increased height of the overburden emplacement from various viewpoints in Camberwell Village, Middle Falbrook, the New England Highway and Bridgeman Road. The VIA identified 5 key vantage points where views may be affected by the proposed modification. These five viewpoints include (see **Figure 11**):

- Viewpoint 1 intersection of McInerney Road and New England Highway;
- Viewpoint 2 located in front of private dwelling (N91);
- Viewpoint 3 located adjacent private dwelling (N62);
- Viewpoint 4 located in front of private dwelling (N44); and
- Viewpoint 5 located in front of private dwelling (N10).

A further three viewpoints within Singleton Heights and McDougalls Hill were qualitatively assessed and determined not to have views of the modification landforms due to intervening topography and vegetation.

The potential visual impacts of the modification were assessed by evaluating the level of visual effect in the context of the visual sensitivity of relevant surrounding land use areas. Viewpoint 1 was considered to have a moderate visual sensitivity as it is a main road with existing views of other mining operations. The remaining four viewpoints are indicative of private dwellings within 6 km of the site and therefore determined to have a moderate-high visual sensitivity.

#### **Visual Impacts**

At Viewpoint 1 the existing overburden emplacement is already visible. Although the modification would increase the height of the overburden emplacement, the impacts would represent a relatively minor change to approved views of the mine and would create a more visually aesthetic landform with natural relief features. To assist in minimising the visual impact along the New England Highway, Bloomfield would continue to maintain the planted tree screen abutting the highway at the junction with McInerney Road. **Figure 12** provides a photomontage of the predicted visual impacts at Viewpoint 1.

At Viewpoint 2, within Camberwell Village, the existing overburden emplacement is slightly visible, although the majority of the landform is shielded from view by intervening topography. By increasing the height of the overburden emplacement, the modification would result in a temporarily moderate visual impact at this viewpoint. This impact would be reduced to low once the height of the overburden emplacement is reduced, the final landform with naturalistic features is established and rehabilitation is complete. **Figure 13** provides a photomontage of the predicted visual impacts at Viewpoint 2.

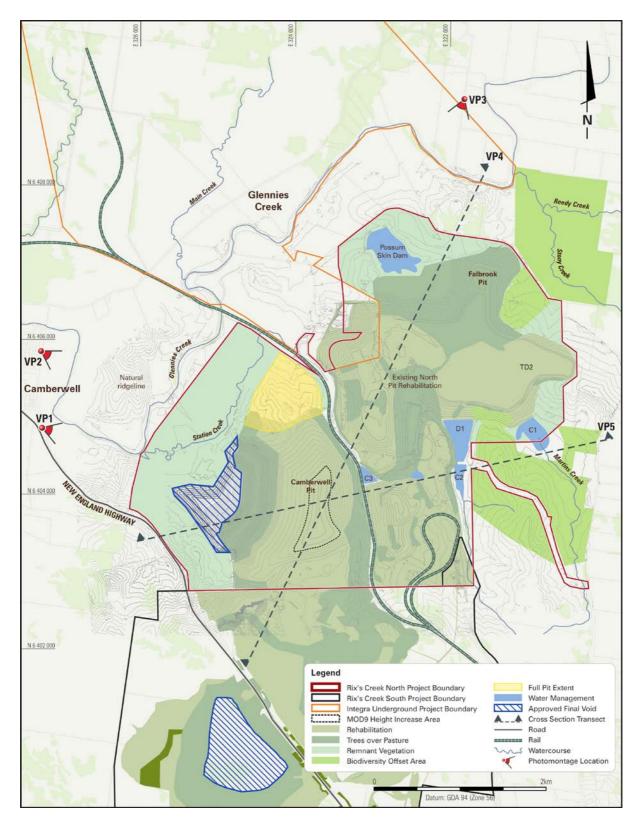


Figure 11 | Viewpoint locations

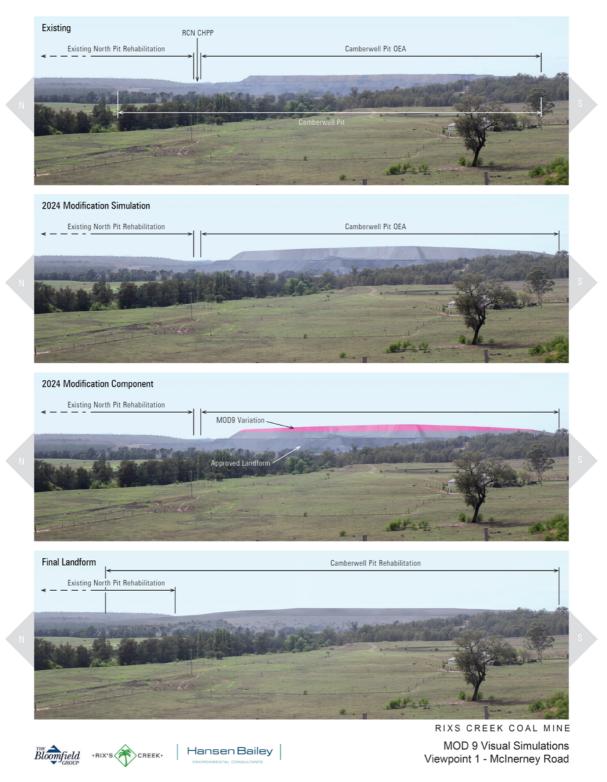


Figure 12 | Photomontages from Viewpoint 1

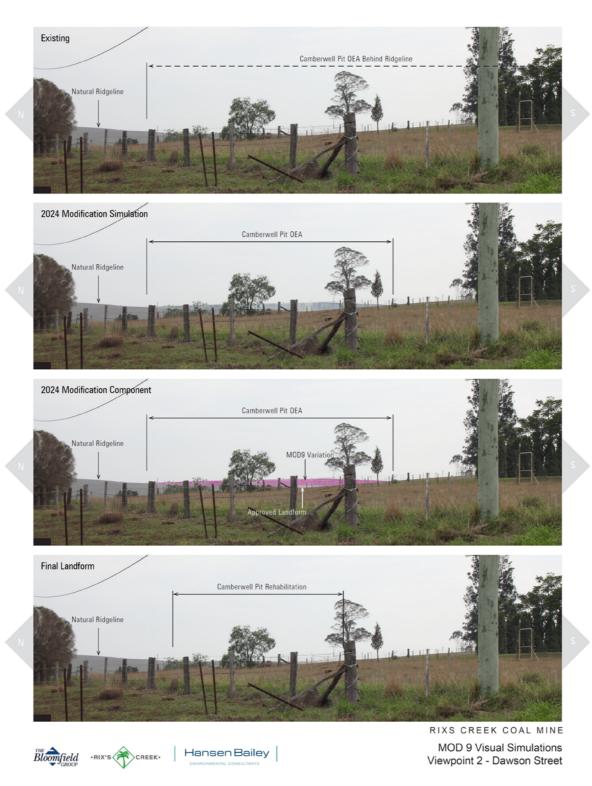


Figure 13 | Photomontages from Viewpoint 2

At Viewpoint 3, northeast of the site, views of the existing overburden emplacement are mostly shielded by an intervening ridgeline. Only a very small portion of the modified overburden emplacement would be visible during operations, and these views would largely disappear once rehabilitation is complete. **Figure 14** provides a photomontage of the predicted visual impacts at Viewpoint 3.

Viewpoint 4, on the Glennies Creek Floodplain, does not have views of the existing overburden emplacement due to an intervening ridgeline. Even during operations, the modified overburden emplacement would not be visible from this viewpoint.

Viewpoint 5, a rural property along Bridgeman Road, has very slight views of the existing overburden emplacement with the majority of the landform being shielded by intervening topography. The modified overburden emplacement would be visible above the existing tree line, however it would only occupy a very small portion of the total focal view area at this viewpoint.

Additional lighting impacts associated with the modification would continue to be managed in accordance with the current conditions of consent. These require Bloomfield to implement all reasonable and feasible measures to mitigate off-site lighting impacts of the project and ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting*, or its latest version.

#### Conclusion

Overall, the Department considers that the visual impacts associated with the Modification would represent a relatively minor change to approved views of the mine and would result in a net improvement in the long-term visual aesthetics of the final landform following rehabilitation. The Department considers that the existing conditions remain appropriate for the development.

### 5.4 Final landform and rehabilitation

Existing conditions of consent, as modified, require Bloomfield to progressively rehabilitate the site to meet detailed rehabilitation objectives in accordance with a Rehabilitation Management Plan (RMP). This includes a requirement for final landform design to incorporate micro-relief and integrate with the surrounding natural landform.

#### **Revised Final Landform**

While the height of the overburden emplacement would be temporarily increased to RL 175 m, this material would be subsequently reshaped and the height of the final landform would be reduced to RL 165 m during rehabilitation activities. The revised conceptual final landform is shown on **Figure 3**.

The proposed changes to the final landform would only result in minor additional visual impacts, with the most pronounced impacts being temporary in nature. Following final rehabilitation the visual impacts on the surrounding landuses would be mostly indistinguishable. Further to this, the proposed height increase of the overburden emplacement would provide Bloomfield flexibility to address its existing rehabilitation requirements (i.e. to incorporate micro-relief and better integrate with the surrounding landscape) (see **Section 2.1**).

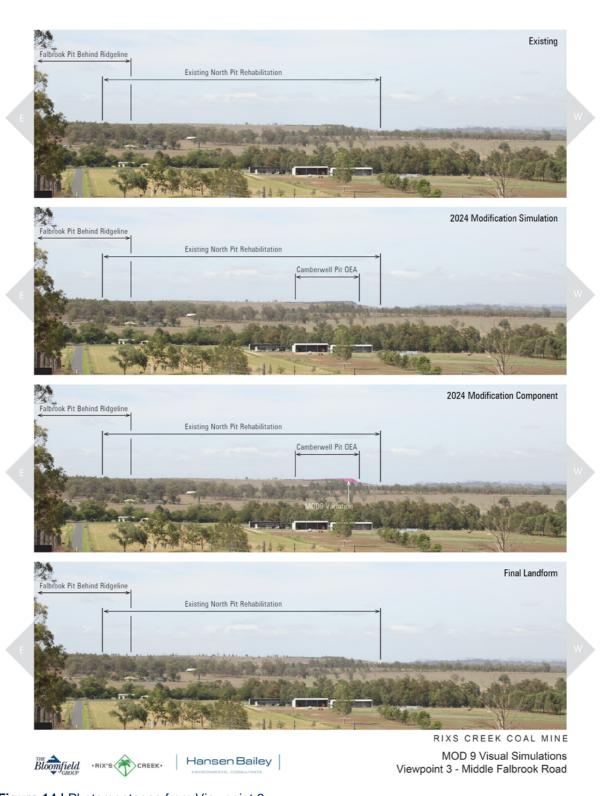


Figure 14 | Photomontages from Viewpoint 3



Figure 15 | Existing rehabilitation proposed to be cleared

Although the Modification does not involve clearing of any land outside the currently approved disturbance footprint, it does involve the clearing of approximately 13.5 ha of existing rehabilitation. The rehabilitation proposed to be cleared was completed in August and September 2017 and is identified in the RMP as 'pasture'. **Figure 15** shows the typical vegetation within the existing rehabilitation area.

Bloomfield has advised that rehabilitation of the site (including the areas subject to the modification) would continue to be undertaken in accordance with the RMP in order to achieve the conceptual final land use (i.e. a combination of woodland and pasture). Any disturbance associated with exploration activities would be remediated and rehabilitated in accordance with the conditions of Bloomfield's mining and exploration authorisations under the Mining Act.

In addition, Bloomfield has committed to undertake mine closure planning in consultation with BCD, Council and the Community Consultative Committee at least 5 years prior to the cessation of mining activities.

The Department notes that MEG and the Resource Regulator advised they had no comment on the modification and recommends that Bloomfield update the existing RMP to reflect the modification.

#### Conclusion

The Department has carefully assessed the potential impacts of the proposed modification with respect to rehabilitation. The Department considers that the proposed modification would facilitate positive rehabilitation outcomes for the site without materially increasing the environmental or amenity impacts of the development. The Department considers that rehabilitation outcomes can continue to be suitably managed under an updated RMP.

## 5.5 Other issues

Other issues associated with the modification include potential impacts on biodiversity, Aboriginal cultural and historic heritage, water resources, economic and greenhouse gas impacts. The Department's assessment of these issues is summarised in **Table 4** below.

Table 4 | Summary of other issues

Issue	Findings	Recommendations
Biodiversity	<ul> <li>The modification does not involve changes to approved disturbance limits and therefore no impacts on biodiversity are considered likely.</li> <li>Existing conditions require Bloomfield to conduct targeted surveys for <i>Diuris tricolor</i> prior to commencing exploration drilling. In addition, Bloomfield has committed to conducting due diligence assessments for ecology prior to any clearing.</li> <li>The Department also notes that Bloomfield could need to obtain any necessary approvals under the Mining Act as part of its exploration drilling program and that these approvals would also include conditions for managing and rehabilitating impacts to biodiversity.</li> <li>Under the existing consent conditions, biodiversity impacts are required to be monitored and managed in accordance with an approved Biodiversity Management Plan.</li> <li>Potential biodiversity impacts were not raised as a concern in any agency advice or public submissions.</li> </ul>	<ul> <li>The Department considers that the modification is unlikely to materially impact biodiversity values.</li> <li>To ensure impacts to biodiversity is minimised during exploration, the Department has recommended the existing conditions requiring targeted surveys for <i>Diuris tricolor</i> be expanded to cover any additional exploration activities outside areas previously approved for disturbance.</li> <li>Further, the Department recommends Bloomfield prepare an Exploration Activities Management Plan prior to conducting any exploration activities.</li> </ul>
Heritage	<ul> <li>The modification does not involve changes to approved disturbance limits and therefore no impacts on items of heritage value are considered likely.</li> <li>For exploration activities, due diligence assessments for heritage would be completed prior to any clearing and approvals under the Mining Act would be sought, as required.</li> <li>Under the existing consent conditions, impacts on heritage values are required to be monitored and managed in accordance with an approved Heritage Management Plan.</li> <li>Potential heritage impacts were not raised as a concern in any agency advice or public submissions.</li> </ul>	<ul> <li>The Department considers that the modification is unlikely to materially impact items of heritage value.</li> <li>To ensure impacts to heritage items is minimised during exploration, the Department has recommended Bloomfield prepare an Exploration Activities Management Plan prior to conducting any exploration activities.</li> </ul>

Issue Findings Recommendations

## Water resources

- The modification would not significantly alter catchment areas reporting to the mine water management system.
- The modification would also not result in an increase in water take from any regulated or unregulated water sources, and there would be no change to the currently approved water management system.
- Water runoff from rehabilitated areas of the overburden emplacements is currently diverted via contour banks and catch drains to sediment dams or active mining areas where it is captured in the mine water management system. Drainage from the revised final landform would be integrated into the existing drainage system.
- Under the existing consent conditions, impacts on water resources are required to be monitored and managed in accordance with an approved Water Management Plan.
- Potential impacts on water resources were not raised as a concern in any agency advice or public submissions.

- The Department considers that the modification is unlikely to impact water resources and that the existing conditions remain appropriate for the development.
- The Department recommends that Bloomfield revise the existing Water Management Plan to incorporate the modified landforms.

#### Greenhouse Gas

- The AQIA qualitatively assessed greenhouse gas emissions assessed against the Air Quality Impact Assessment Integra Open Cut Project (Holmes Air Sciences, 2009).
- The modification would result in minor increased haulage distance due to the additional height of the overburden emplacement.
- Despite this, the proposed ROM coal extraction over the period of the modification would be approximately 0.8 Mtpa lower than originally assessed in the 2009 AQIA.
- As a result, TAS concluded that the additional diesel usage associated with the increased haulage distance would be more than offset by the decrease in emissions associated with the reduced ROM coal haulage.
- Overall, it was concluded that the greenhouse gas emissions for the modification would be less than the approved operations.
- Bloomfield would continue to manage greenhouse gas emissions in accordance with its AQGHGMP.

 The Department considers that the modification is not likely to significantly increase greenhouse gas emissions and that the existing conditions remain appropriate for the development.

## 6 Evaluation

The Department has assessed the modification application in accordance with the relevant provisions of the EP&A Act. The Department has carefully considered the potential impacts of the proposal on the natural environment and on nearby receivers.

The Department has concluded that these impacts can be appropriately managed under existing and modified conditions and, where necessary, updated management plans. The Department has also sought to align relevant conditions to those imposed by the Independent Planning Commission in its determination of the Rix's Creek South (SSD 6300), contemporise references to Government agencies and reinforce the need for compliance with relevant project criteria.

The proposed modification would allow Bloomfield to increase the overall height of the approved overburden emplacements within the Camberwell Pit and conduct a maximum of three blasts per day across Camberwell and Falbrook Pits, while still complying with the current limit of 10 blasts per week, averaged over a year. These changes would facilitate the incorporation of micro-relief into the overburden emplacement design and allow Bloomfield to improve operational efficiency by undertaking blasting when the environmental conditions are most favourable.

Government agency and Council submissions did not object to the modification and the Department considers that the issues raised in these submissions would be appropriately addressed through the implementation of management and monitoring measures required under the recommended conditions.

Fourteen public submissions were received on the modification, comprising thirteen in support and one opposed. This objection raised concerns regarding increased dust impacts on nearby receivers and noise and vibration impacts on surrounding receivers. The Department has carefully considered these matters in its assessment and concluded that the incremental noise and air quality impacts of the proposed modification on private receivers are predicted to be minor relative to the approved operations. Nevertheless, the Departement has recommended that two additional vacant landholdings be offered rights to acquistion upon request and that Bloomfield be required to review and update its existing management and mitigation measures.

On balance, the Department considers that the proposed modification is in the public interest and should be approved, subject to conditions.

The Department has drafted a recommended Notice of Modification for MP 08\_0102 (see **Appendix E**) and a consolidated version of the development consent, as it is proposed to be modified (see **Appendix F**).

## 7 Recommendation

It is recommended that the Director, Resource Assessments, as delegate of the Minister for Planning and Public Spaces:

- considers the findings and recommendations of this report;
- determines that the application MP 08\_0102 (MOD 9) falls within the scope of section 4.55(2) of the EP&A Act;
- accepts and adopts all of the findings and recommendations in this report as the reasons for making the decision to grant approval to the application;
- modifies the consent MP 08\_0102; and
- signs the attached approval of the modification (Appendix E).

Recommended by:

12/2/2021

Joe Fittell

Senior Environmental Assessment Officer Resource Assessments Recommended by:

12/2/2021

**Lauren Evans** 

Team Leader

Resource Assessments

## 8 Determination

The recommendation is **Adopted** by:

16/02/2021

**Matthew Sprott** 

Director

Resource Assessments

as delegate of the Minister for Planning and Public Spaces

## **Appendices**

### **Appendix A – Statement of Environmental Effects**

See the Department's Major Project's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/27121

## Appendix B - Submissions

See the Department's Major Project's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/27121

### **Appendix C – Response to Submissions**

See the Department's Major Project's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/27121

## Appendix D - Notice of Decision

See the Department's Major Project's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/27121

### **Appendix E – Notice of Modification**

See the Department's Major Project's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/27121

## **Appendix F - Consolidated Consent**

See the Department's Major Project's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/27121