



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

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# ***RUSSELL VALE COLLIERY UNDERGROUND EXPANSION PROJECT***

## ***VISUAL IMPACT MANAGEMENT PLAN***

**RVC EC PLN 029**



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## Control

PROPERTY	VALUE
Approved by	
Document Owner	Richard Sheehan, Environment and Approvals Manager
Effective Date	12 August 2021

## Revision History

VERSION	DATE REVIEWED	REVIEW TEAM (CONSULTATION)	NATURE OF THE AMENDMENT
D1	04/03/2021	Glenn McIntosh McIntosh & Phelps WCL environment team	Development of a draft plan for consultation.
D2	29/03/21	Glenn McIntosh McIntosh & Phelps WCL environment team	Review of and inclusion of consultation and minor formatting updates for DPIE submission.
R0	17/04/21	Glenn McIntosh McIntosh & Phelps WCL environment team	Review and amendment to index error and minor formatting.
R1	31/05/21	Glenn McIntosh McIntosh & Phelps WCL environment team	Final to address DPIE comments.
R2	07/07/21	EMM WCL environment team	Update project description to be consistent with all other management plans and address DPIE comments from 14 June 2021.
R3	30/07/21	EMM WCL environment team	Update to mitigation and management strategies relevant to each stage of the project in accordance with AS4282 to address DPIE comments from 28 July 2021.
R4	12/08/2021	Robert Faddy-Vrouwe	Update to include a commitment to conduct a lighting audit against AS4282 within 3 months of approval of this plan following DPIE feedback dated 12 August 2021.

## Contents

1	INTRODUCTION .....	1
1.1	Overview .....	1
1.2	Project Background .....	1
1.3	Environmental management system overview .....	3
1.4	Purpose of this VIMP .....	5
1.5	Consultation .....	5
1.5.1	Consultation during the environmental assessment process .....	5
1.5.2	Consultation during the preparation of the Management Plan .....	6
1.6	Document structure .....	6
2	PROJECT DESCRIPTION .....	8
2.1	Project overview – surface infrastructure .....	8
2.2	Project staging .....	8
2.2.1	Coal handling and processing .....	10
2.2.2	Reject material handling .....	10
2.2.3	Coal stockpiling .....	10
2.3	Bellambi Gully Creek .....	10
2.4	Rehabilitation .....	11
2.5	Environmental duty of care .....	11
3	PLANNING .....	16
3.1	Overview .....	16
3.2	Development Consent .....	16
3.3	Statement of Commitment (SoC) .....	22
3.4	Statutory Controls and Strategic Management Plans .....	23
4	EXISTING ENVIRONMENT .....	24
4.1	Existing Landscape Setting .....	24
4.1.1	Regional Setting .....	24
4.1.2	Local Setting .....	24
4.2	Visual Environment .....	24
4.3	Scenic Value .....	24
4.4	Topography .....	25
4.5	Edge Conditions .....	25
4.6	Existing Treatment .....	26
5	MITIGATION AND MANAGEMENT STRATEGIES .....	29
5.1	General Commitment .....	29
5.2	Magnitude of Change .....	29

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

5.3	Receptors .....	29
5.4	Viewpoints .....	29
5.4.1	Impacts to Viewpoints .....	33
5.4.2	Viewpoint Mitigation .....	33
5.5	Landscape Strategy .....	39
5.5.1	Visual Bunds .....	39
5.5.2	Tree and Screening Planting .....	39
5.5.3	Planting Approach .....	41
5.5.4	Landscape Establishment, Maintenance, and Weed Control .....	42
5.6	Noise Walls, Building and Infrastructure Treatment .....	43
5.7	Lighting .....	43
5.7.1	General lighting impacts .....	43
5.7.2	Lighting impacts from Vehicles .....	44
5.8	Visual Absorption Capacity .....	44
6	LANDSCAPE MONITORING AND REPORTING .....	45
6.1	Monitoring .....	45
6.2	Incident and non-compliance reporting .....	51
6.2.1	Incidents .....	51
6.2.2	Non-compliance .....	51
6.3	Handling complaints .....	51
6.4	Public sources of data .....	52
7	CONTINGENCY PLAN .....	53
7.1	Adaptive management .....	53
7.2	Contingency plan .....	53
8	REVIEW AND IMPROVEMENT .....	57
8.1	Annual Review .....	57
8.2	Auditing .....	57
8.3	Access to Information .....	57
8.4	Plan revision .....	58
9	REFERENCES .....	59
10	GLOSSARY OF ABBREVIATIONS AND TERMS .....	60
	APPENDIX A – AGENCY AND CCC CONSULTATION .....	62
	APPENDIX B – PHOTOGRAPHIC CALIBRATION .....	67

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

## List of tables

Table 1 – Consultation undertaken as part of the preparation of this Management Plan .....	6
Table 2 – VIMP Document Structure .....	6
Table 3 – Development Consent – Conditions of Approval .....	16
Table 4- Statement of Commitment (SoC) .....	22
Table 5 – Performance Criteria .....	33
Table 6 - (Dry) Illawarra Escarpment Blackbutt forest.....	40
Table 7 - (Wet) Illawarra lowland grassy woodland species .....	41
Table 8 – Landscape and Lighting Monitoring and Reporting.....	46
Table 9 – Contingency Plan .....	54

## List of figures

Figure 1 - Project location .....	2
Figure 2 - EMS framework, including VIMP .....	4
Figure 3 - Existing Russell Vale Colliery Pit Top .....	12
Figure 4 - Proposed Stage 1 without surface infrastructure .....	13
Figure 5 - Proposed Stage 2A surface infrastructure components without coal processing plant .....	14
Figure 6 - Proposed Stage 2B surface infrastructure components with coal processing plant.....	15
Figure 7 – Russell Vale Pit Top Proposed Plant and Infrastructure Plan.....	27
Figure 8 – Landscape Planting Plan.....	28
Figure 9 - Viewpoint Locations – Sheet 1 .....	30
Figure 10 - Viewpoint Locations – Sheet 2 .....	31
Figure 11 - Viewpoint Locations – Sheet 3 .....	32
Figure 12 - Internal Viewpoint – Sheet 1.....	35
Figure 13 - Internal Viewpoint – Sheet 2.....	36
Figure 14 - Internal Viewpoint – Sheet 3.....	37
Figure 15 - Site Sections .....	38

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

## 1 INTRODUCTION

### 1.1 Overview

This Visual Impact Management Plan (VIMP) has been prepared by Glenn McIntosh, of McIntosh & Phelps (Registered Landscape Architect, BBE (L'Arch) (Dist), GDLA (Dist), AILA, Architecture Graduate M.Arch. on behalf of Wollongong Coal Pty Limited (WCL) to manage visual impacts for the underground expansion of the Russell Vale Colliery (the Colliery) in accordance with Conditions B33 of MP09\_0013.

Glenn is a Registered Landscape Architect with over 15 years professional experience across a diverse range of private and public projects. With demonstrated capability in all project phases including design, documentation and construction, he has played a significant role in the successful delivery of a number of complex landscape architectural projects such as West Circular Quay Public Domain Upgrade. In addition to his qualifications and experience in Landscape Architecture, Glenn has a Master of Architecture degree from the University of Sydney.

Glenn has been involved in on site data collection and the preparation of graphic analysis and input to Visual Impact Assessments and Plans at Chenoweth Environmental Planning and Landscape Architecture (2004 – 2008) and at the Government Architects Office (2008 – 2016).

More recently Glenn has completed the following LATITUDE Workshops facilitated by the Australian Institute of Landscape Architects (AILA):

- Landscape and Visual Assessment – Part 1 (2020).
- Landscape and Visual Assessment – Part 2 (2021).

### 1.2 Project Background

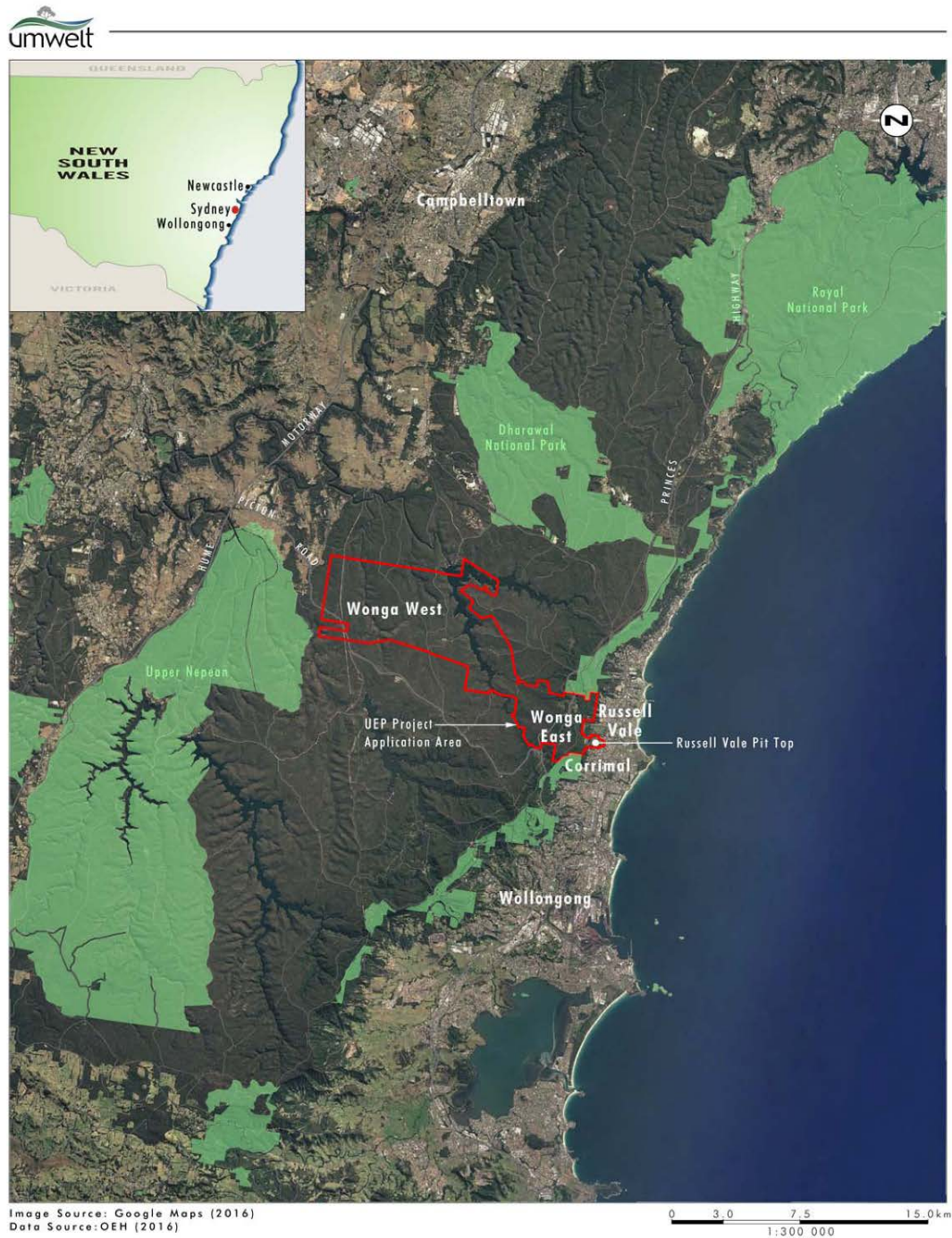
WCL operates the Russell Vale Colliery (formerly the NRE No.1 Colliery) in the Southern Coalfield of New South Wales (NSW). Russell Vale Colliery is an underground coal mine located at Russell Vale, approximately 8 kilometres (km) north of Wollongong and 70 km south of Sydney, within the local government areas (LGAs) of Wollongong and Wollondilly.

The Russell Vale Colliery operates under Project Approval (10\_0046) granted by the Planning Assessment Commission (PAC) on 13 October 2011. The Project Approval was modified (MOD1) by the PAC in 2012 to allow:

- extraction of coal using longwall mining techniques in the Wongawilli Seam for longwalls 4 and 5; and
- development of the main gate roads for longwall 6.



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		



**Legend**  
 UEP Project Application Area

**FIGURE 1.1**  
**Locality Plan**

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**Figure 1 - Project location**

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

A second modification to the Project Approval (PA 10\_0046 MOD2) was granted by the PAC in November 2014 to authorise:

- secondary extraction of the first 365 m of Longwall 6; and
- extension of the duration of mining until 31 December 2015.

Prior to this, a third modification (MOD 3) to MP 10\_0046 was approved on 10 October 2014. MOD 3 authorised the continuation of mining operations until 31 December 2014. This modification was effectively superseded by MOD 2, which allowed mining operations to be undertaken until 31 December 2015. Since 2015, Russell Vale Colliery has been in a state of 'care and maintenance'.

In February 2013, WCL lodged a separate development application (MP09\_0013) for its Underground Expansion Project (UEP) to facilitate further mining operations at Russell Vale Colliery. This development application was subsequently amended, as WCL proposed a substantial revision to the UEP. The associated environmental assessment (ERM 2019) was provided in Russell Vale Revised Underground Expansion Project: Revised preferred project report and response to second PAC review (the Revised Project Report) (Umwelt 2019a).

The Revised Project Report was on public exhibition from 1 August 2019 to 29 August 2019. In response to the submissions received during the exhibition period, WCL commissioned Umwelt to prepare the Russell Vale Colliery Revised Underground Expansion Project Submissions Report. This was published in two parts (A and B) (Umwelt 2019b, 2019c), and is collectively referred to here as the Submission Report.

After a formal review process by the PAC, the Independent Planning Commission (IPC) of NSW granted a Development Consent (MP09\_0013) on 8 December 2020 for the Revised UEP. The Revised UEP, which is also referred to as the Revised Preferred Project in assessment reports, is referred to as 'the project' from here on.

Whilst the Russell Vale Colliery Underground Expansion Project Application area extends from Russell Vale in the east through to Wonga West, Illustrated in Figure 1.1 of Section 1.0, Introduction of the Russell Vale Colliery Revised Underground Expansion Project, Submission Report – Part A (Final) by Umwelt, November 2019, the Study Site for this VIMP is confined to the eastern most extent and includes the; Administration Building and Pit Top which incorporates car parking, associated workshops, dams, reservoirs, belt portals and conveyors and stockpiles.

### 1.3 Environmental management system overview

WCL has a formalised environmental management system (EMS) for the Colliery (WCL 2021a). The EMS provides a framework to ensure that activities at the Colliery are undertaken in an environmentally responsible manner, and are in general accordance with the following:

- Development consent MP09\_0013;
- ISO14001 Environmental Management Standard; and
- Legislative and other requirements.

The structure of the EMS is summarised in Figure 2. The EMS is implemented, managed and updated as required, most recently in accordance with the Russell Vale Underground Expansion Project major project approval MP09\_0013 ('the development consent').



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

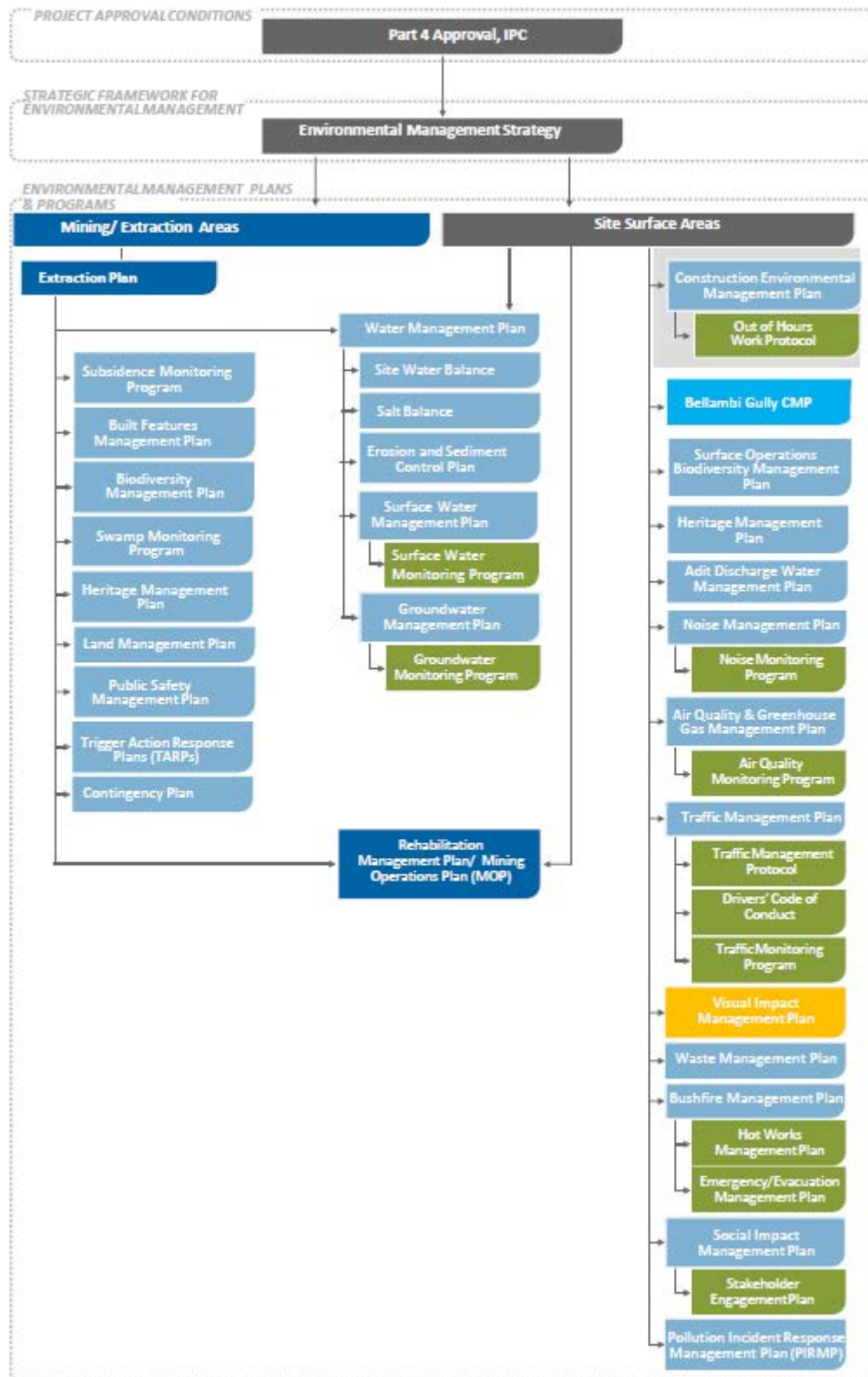


Figure 2 - EMS framework, including VIMP

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

## 1.4 Purpose of this VIMP

The purpose of this VIMP for the Colliery is to:

- identify areas for screening visual impact to key views;
- establish a strategy for minimising lighting and visual impact;
- detail control measures to mitigate visual and lighting impacts;
- detail the review and reporting protocols; and
- establish responsibilities for the management of lighting and visual impacts.

In accordance with Condition A2, this VIMP has been prepared to address any relevant commitments or recommendations identified in:

- conditions of consent B32, B33, B34 and F5;
- all written directions of the Planning Secretary; and
- the Revised Project Report and the project layout (more details on project staging are provided in Chapter 2).

This VIMP is a part of a larger suite of operational environmental management documents for the project. The overarching document in the environmental management system is WCL's EMS, which provides the overall strategic context for the implementation and maintenance of environmental management system of the Colliery.

## 1.5 Consultation

### 1.5.1 Consultation during the environmental assessment process

Extensive community and government consultation has been carried out prior to and during the preparation of the original environmental assessment, the Revised Project Report, the Submissions Report and other project-related assessment documentation. The primary objective of consultation was to keep the community, government agencies and other stakeholders informed and involved during project development process.

Community engagement was carried out in two phases and is summarised in Section 4.1.2 and Section 4.1.3 of the Revised Project Report.

A complete summary of previous and ongoing government agency and stakeholder consultation is provided in Table 4.5 of the Revised Project Report. Consulted parties of relevance to this VIMP included:

- the Department of Planning, Industry and Environment (DPIE);
- Wollongong City Council (WCC); and
- Community Consultative Committee (CCC).

### 1.5.2 Consultation during the preparation of the Management Plan

In accordance with Condition B37, this VIMP has been prepared in consultation with DPIE, WCC and CCC. The consultation undertaken as part of the preparation of the Management Plan is included in Table 1.

**Table 1 – Consultation undertaken as part of the preparation of this Management Plan**

Agency name	Issue	Where issue is addressed in Management Plan
DPIE	Various comments on the VIMP received from DPIE on 5 May 2021.	See Appendix A for details.
WCC	WCC responded to the consultation request on 16 March 2021 noting and reaffirming the key points of this management plan such as lighting, screening, landscaping strategy, and weed management.	Not required.
CCC	A request for comment from the CCC members was issued on 210310, with a reminder 210318, and official notice of close for comment on 210326.  No comments were received from any CCC member.	Not required- no comment received.

In accordance with Condition B34, WCL will ensure implementation of this Management Plan as approved by the Secretary.

### 1.6 Document structure

This VIMP is divided into chapters to address specific requirements and objectives as detailed in Table 2.

**Table 2 – VIMP Document Structure**

Chapter	Content
<b>Chapter 1 Introduction</b>	Provides the background, purpose and structure of this Management Plan, outlines the conditions of consent, document scope, as well as consultation requirements and outcomes.
<b>Chapter 2 Project description</b>	Provides a description of the project and operational activities.
<b>Chapter 3 Planning</b>	Outlines compliance with Conditions of Approval outlined in the Development Consent as these relate to visual impact.
<b>Chapter 4 Existing environment</b>	Summarises the existing landscape setting at a regional and local level to provide a context for the management plan for the project.
<b>Chapter 5 Management</b>	Defines the magnitude of the proposed change and identified effected areas, including a table of performance criteria for assessing the proposed measures to mitigate and manage lighting and visual impacts.



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

<b>Chapter 6 Landscape monitoring and reporting</b>	Defines specific monitoring and reporting requirements, including protocols for the handling of incidents, complaints and non-compliance.
<b>Chapter 7 Contingency plan</b>	Details how the Plan will address potential impacts.
<b>Chapter 8 Review, audit &amp; improvement</b>	Details how the Plan will be audited and reviewed.
<b>Chapter 9 References</b>	Lists the documents cited in the Management Plan.
<b>Appendix A</b>	Agency and CCC consultation.
<b>Appendix B</b>	Photographic Calibration.

## 2 PROJECT DESCRIPTION

### 2.1 Project overview – surface infrastructure

The project also involves changes to the Russell Vale Pit Top (the Pit Top), which includes key project components (i.e. surface infrastructure) requiring construction (see Section 2.2 for further detail) contained wholly within the existing disturbance footprint.

The current and proposed surface infrastructure are presented in Figure 3 and Figure 4 to Figure 6 respectively.

The key elements of the project are:

- mining by bord and pillar mining techniques only, with the workings designed to be long-term stable with minimal subsidence impacts;
- extraction of approximately 3.7 million tonnes of Run-of-Mine (ROM) coal at a reduced production rate of up to 1 million tonnes of product coal per year (equivalent to approximately 1.2 million tonnes of ROM coal per year);
- redesign of the Pit Top layout to relocate infrastructure to more shielded locations to reduce amenity impacts;
- operation of surface facilities and product transport, typically limited to daytime hours (7.00am to 6.00pm Mondays to Friday, 8.00am to 6.00pm Saturday, no Sundays and Public Holidays), with provision for occasional operation until 10.00pm Monday to Friday to cater for unexpected port closures or interruptions (Condition A12 and A13);
- reduced product trucking rates relative to the previous UEP mine plan with a maximum of 17 trucks permitted per hour;
- extension to the height of existing bunds, construction of new bunds and noise walls within the existing surface infrastructure area for improved noise mitigation;
- construction of a new truck loading facility and associated conveyors; and
- construction of a suitable dry coal processing plant to improve the quality of product coal removing reject rock material via use of dry separation methods will also be evaluated at this stage and if required to be installed, will be commissioned to align with the ramp up of production to 1.2 Mtpa ROM.

### 2.2 Project staging

The project will be implemented in stages as per below with the scope of this EMS covering all stages:

- **Stage 1**

Installation of environmental monitoring controls and mitigation measures, truck access roads, construction of new noise walls, noise bunds and new primary sizer.

Commencement of mining operations ramping up to approximately 0.5 Mtpa with crushed coal transferred to the ROM stockpile and coal loading via front-end loader to trucks to be transported to PKCT.

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

Evaluation of the feasibility of a coal processing plant (CPP) to be installed as part of the new Stage 2 surface infrastructure.

Key elements included in Stage 1 works include (see Figure 3):

- o development and mining by bord and pillar mining methods;
- o up to 500,000 tonnes of product coal per year;
- o installation of new primary sizer inline;
- o front end loading ROM coal onto trucks;
- o ROM stockpile up to 30,000 tonnes; and
- o construction of surface infrastructure works, including construction of new noise walls, noise bunds, truck access roads, and commissioning the design and construction of the truck loading bin and associated conveyers.

A copy of the Stage 1 surface infrastructure is provided in Figure 4.

## • Stage 2

Finalise the construction and commissioning of new surface infrastructure, comprising truck loading bins and associated conveyors.

The coal will be transferred from the ROM stockpile through a series of conveyors to the truck loading bin to be loaded onto the trucks for transportation to PKCT or transferred to a new stockpile area for temporary stockpiling.

Coal from temporary stockpile will be loaded onto trucks by front-end loader for transportation to PKCT (Stage 2A – see Figure 5).

If the outcome of the evaluation in Stage 1 is to construct a CPP, the coal from the ROM stockpile will transferred by a series of conveyors to the CPP (Stage 2B – see Figure 6).

The product from the CPP will transferred to the truck loading bin to be loaded onto the trucks for transportation to PKCT or transferred to a new stockpile area for temporary stockpiling.

Coal from temporary stockpile will be loaded onto trucks by front-end loader for transportation to PKCT. The rejects conveyor will transfer the rejects from the CPP to the rejects stockpile (Stage 2B).

Commencement of full mining operations ramping up to 1.2 Mtpa is to align with when the new coal handling facilities and associated infrastructure is fully operational.

Key elements included in Stage 2 works include:

- o mining by bord and pillar mining;
- o up to 1 million tonnes of product coal per year;
- o up to 1.2 million tonnes ROM coal per year;
- o loading product coal onto trucks via bins;
- o construction of new CPP;



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

- o construction new surge bin;
- o ROM stockpile 30,000 tonnes;
- o product stockpile 14,000 tonnes;
- o emergency stockpile;
- o rejects stockpile 1,500 tonnes;
- o waste rock from CPP used in rehabilitation; and
- o waste rock from CPP emplaced underground.

### 2.2.1 Coal handling and processing

The proposed coal handling facilities and surface infrastructure upgrades proposed as part of the Revised Preferred Project will be undertaken in accordance with the UEP Project Consent under the NSW EP&A Act to improve the quality of ROM coal in order to meet market demands and to minimise impacts on the environment and local community.

Works associated with the planned upgrade are all located within the existing disturbance footprint of the study area. The planned upgrades to the existing surface infrastructure within the study area (Figure 3) are shown on Figure 4 to Figure 6.

### 2.2.2 Reject material handling

Following commissioning of a suitable CPP, it is anticipated that approximately 0.2 Mtpa of reject material will be produced at full production. Reject material consisting of rock material from the CPP will be transferred via the rejects conveyor to the reject stockpile (see Figure 6).

Beneficial reuse would be dependent on further application and or approval, whilst underground emplacement would only be carried out if testing determines the material to be suitable – see RVC Waste Management Plan.

Reject material that after suitable testing meets the specifications (see Waste Management Plan RVC ENV PLN 033) are hauled back to the mine portal via the internal haul road (see Figure 6) for emplacement underground.

### 2.2.3 Coal stockpiling

Three main coal stockpiles will operate within the Pit Top operational area, these being the main ROM stockpile (30,000 t capacity), product stockpile (14,000 t capacity) and proposed temporary rejects stockpile (1,500 t capacity).

## 2.3 Bellambi Gully Creek

The RPPR describes proposed Bellambi Gully Creek realignment works as being a part of a modification to the previous project consent MP10\_0046, i.e., MOD 4. The Modification was subsequently withdrawn, and the project was included in the UEP major project application. Subsequent to the issue of the RPPR in July 2019, and the UEP Additional Information Response Report in June 2020, on 23 July 2020 WCL was issued with an enforcement order by DPIE in relation to the replacement of the underground section of Bellambi Gully pipe. Generally, the order requires WCL to engage a suitably qualified independent licensed engineer to develop detailed

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

plans for the replacement of the underground pipe section of Bellambi Gully Creek with a suitably designed and engineered open channel, generally in accordance with the design parameters outlined in Cardno 2020 Phase 1 and 2 Bellambi Gully Flood Assessment Proposed Stormwater Diversion Drain.

As a result of and in compliance with this order the detailed design for Bellambi Gully Diversion and associated site water management system improvements was completed in late 2020 with works commencing onsite post approval of the Construction Management Plan (CMP) by DPIE in April 2021. The construction works associated with the construction of the new diversion channel and associated site water management system improvements are reasonably expected to be completed by November 2021 are addressed in the Bellambi Gully Creek Diversion CMP. The operation of this new channel once completed in accordance with the DPIE order will be detailed in a specific maintenance plan inclusive of an implementation plan which would be included as appropriate in the RV Surface Operations Water Management Plan. This is shown in the context of the site EMS in Figure 6.

## 2.4 Rehabilitation

WCL intends to continue use of the site post the 5-year term of this MP09\_0013 Consent. As a result, decommissioning and closure of the Russell Vale Colliery Pit Top facilities are not proposed following the completion of the UEP project.

Rather, if required pending the completion of the 5-year term of the current approval if there are delays to expected future planning assessment process such that mining operations are required to cease the site would be maintained until such time as a planning consent for mining operations is obtained. This will conducted in accordance with the conditions of consent and generally in accordance with the RPPR. If consent for continuing use of the site is at the times not anticipated to be forthcoming, WCL will prepare and implement a detailed mine closure and rehabilitation plan in consultation with the Resources Regulator and other relevant government agencies and stakeholders.

For this project term of 5 years from the date of commencement of mining operations, the existing rehabilitation and mine closure strategy outlined in the current Russell Vale Colliery Rehabilitation Management Plan or its equivalent Mine Operations Plan, and generally in accordance with the Rehabilitation Objectives detailed in Table 5 of the Development Consent.

WCL will continue to progressively rehabilitate and decommission non-critical infrastructure as they are phased out of mining operations or become non-critical to potential future land use options at the Colliery. This will be further detailed in the Rehabilitation Management Plan or combined with the Mining Operations Plan, in accordance with Condition B44.

## 2.5 Environmental duty of care

WCL will implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the project, and any rehabilitation required under the consent.

To assist the public and other stakeholders understand the impacts from the development, public sources of data to be included on the company website are outlined in Section 6.4.

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

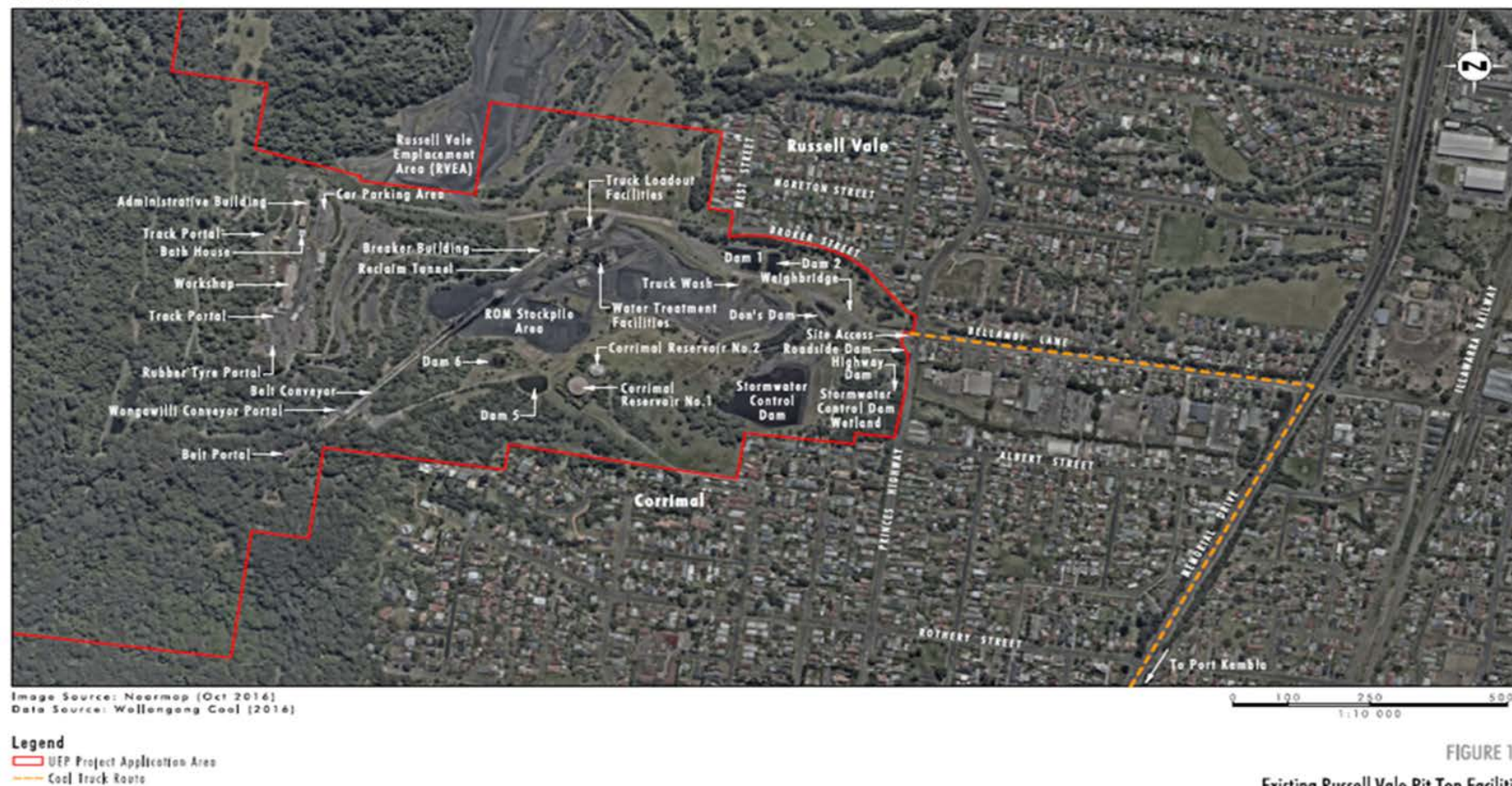


Figure 3 - Existing Russell Vale Colliery Pit Top



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

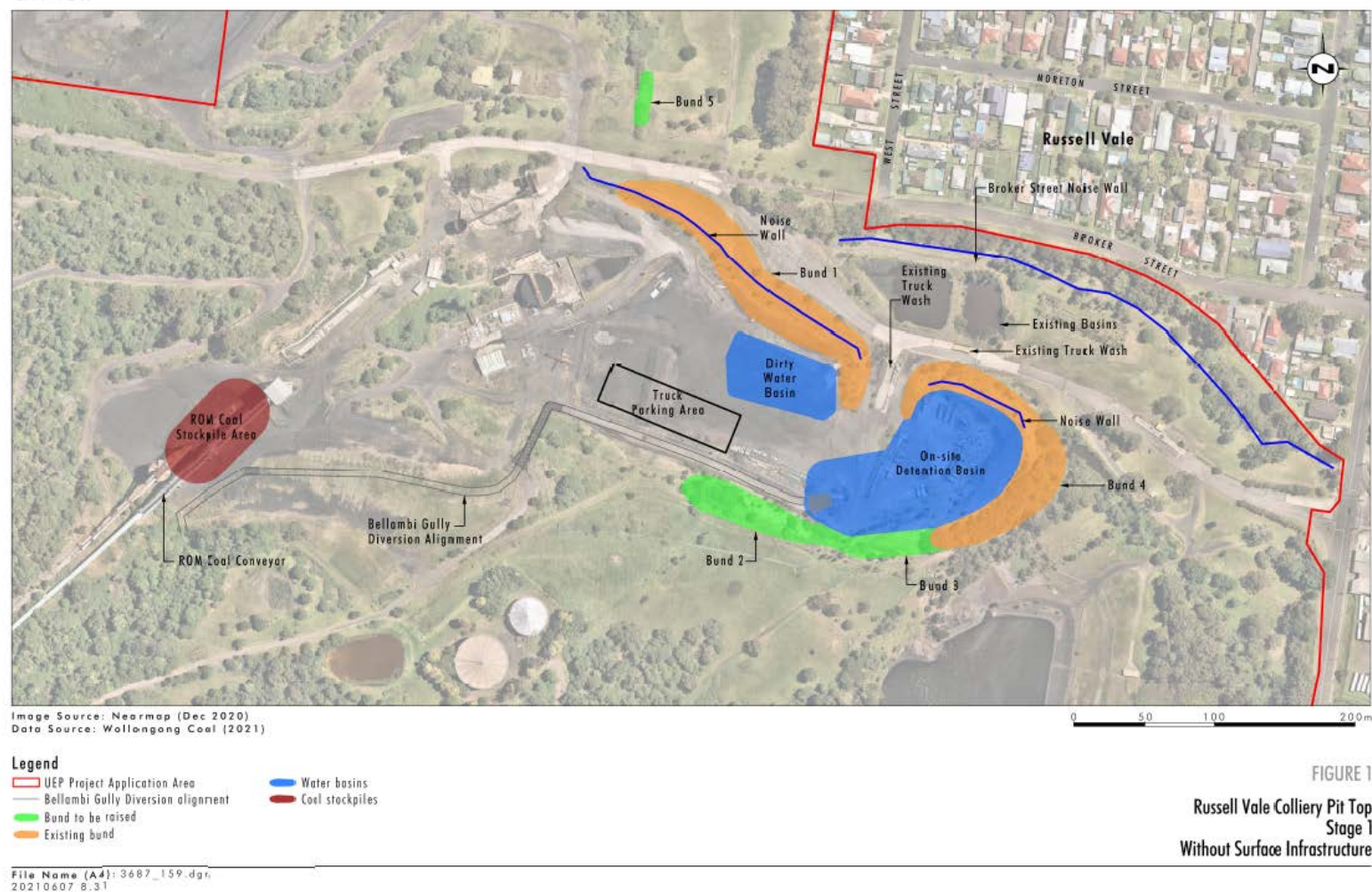


Figure 4 - Proposed Stage 1 without surface infrastructure

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

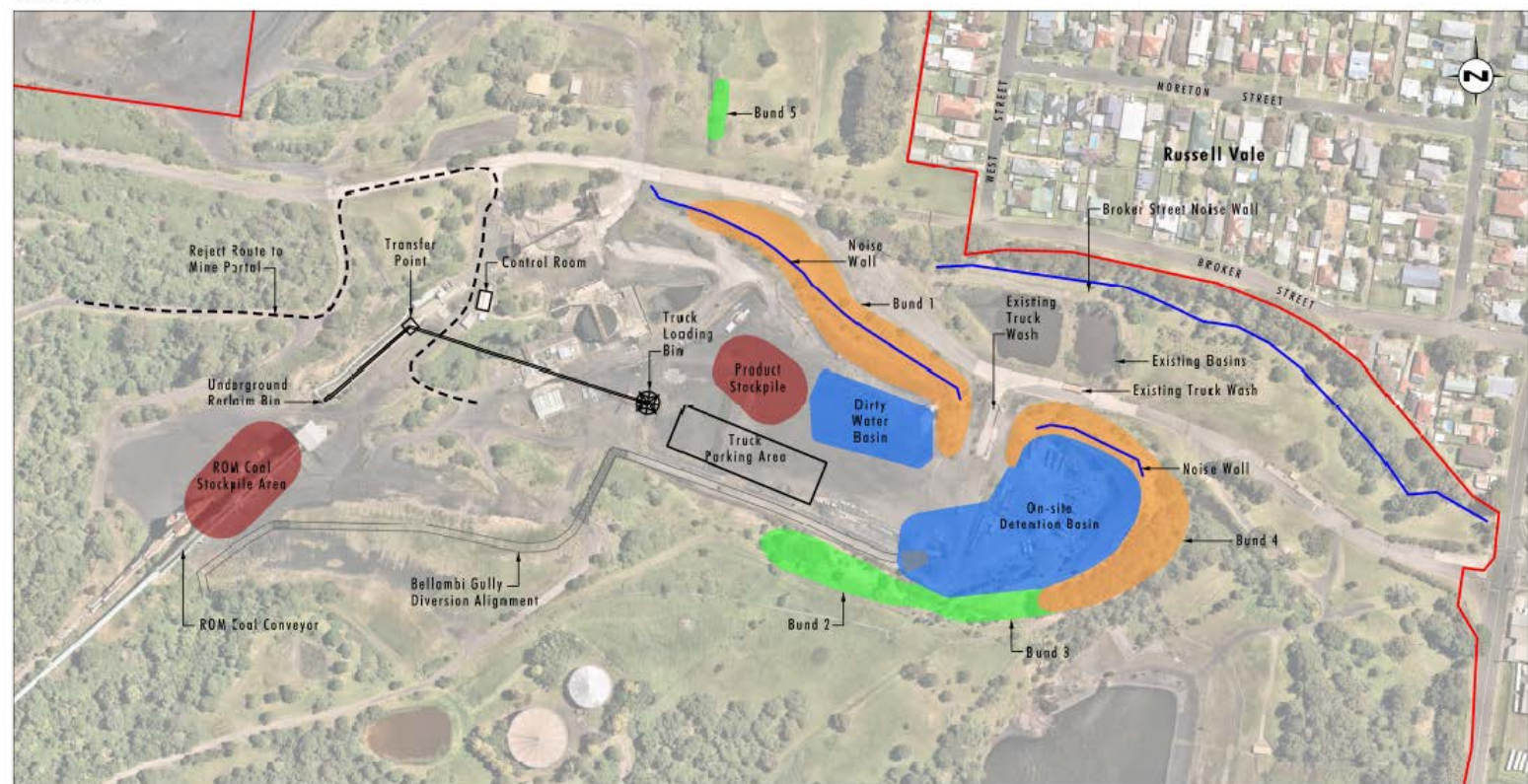


Image Source: Nearmap (Dec 2020)  
Data Source: Wollongong Coal (2021)

**Legend**

- UEP Project Application Area
- Coal Processing Plant and infrastructure
- Bellambi Gully Diversion alignment
- Bund to be raised
- Existing bund
- Water basins
- Coal stockpiles

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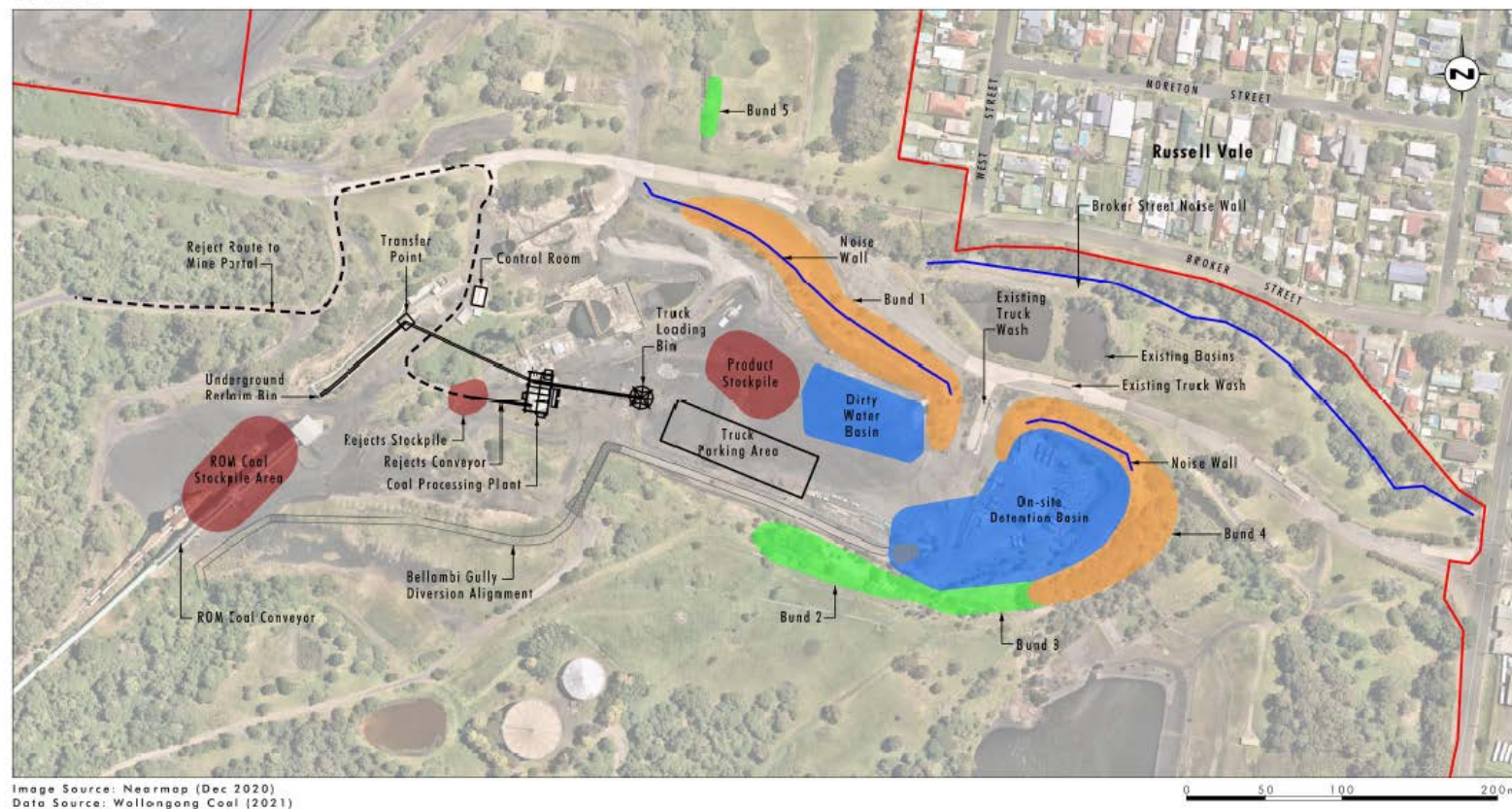
FIGURE 2

Russell Vale Colliery Pit Top  
Stage 2A  
Without Coal Processing Plant

Figure 5 - Proposed Stage 2A surface infrastructure components without coal processing plant



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		



- Legend**
- UEP Project Application Area
  - Coal Processing Plant and infrastructure
  - Bellambi Gully Diversion alignment
  - Bund to be raised
  - Existing bund
  - Water basins
  - Coal stockpiles

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20210607 8.31

FIGURE 3

Russell Vale Colliery Pit Top  
Stage 2B  
With Coal Processing Plant

Figure 6 - Proposed Stage 2B surface infrastructure components with coal processing plant



## 3 PLANNING

### 3.1 Overview

In addition to the development consent a number of, licences and guidelines apply to the project, with associated conditions and requirements. The following sections summarise those that are most relevant in relation to this VIMP.

WCL commits to ensuring it conducts all activities onsite in a manner consistent with the approval and any other legislation that is applicable.

### 3.2 Development Consent

Wollongong Coal Limited's statutory obligations for the Visual Impact Management Plan (VIMP) listed in the Conditions of Development Consent, are outlined below.

Table 3 identifies the key conditions in the development consent and indicates where each one is addressed in this Management Plan.

**Table 3 – Development Consent – Conditions of Approval**

Conditions of consent	Section Addressed in plan
<b>Obligation to minimise harm to the environment</b> A1. In addition to meeting the specific performance measures and criteria established under this approval, the Applicant must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the project, and any rehabilitation required under this consent.	Section 5 Section 6 Section 7 Section 8
A2. The Development may only be carried out: <ul style="list-style-type: none"> <li>a) in compliance with the conditions of the consent;</li> <li>b) in accordance with all written directions of the planning secretary; and</li> <li>c) generally in accordance with the RPPR and the Development Layout.</li> </ul>	Section 1.4 Purpose of this VIMP
<b>VISUAL - Amenity and Lighting</b>	
B32. The Applicant must: <ul style="list-style-type: none"> <li>a) take all reasonable steps to minimise the visual and off-site lighting impacts of the development;</li> </ul>	Section 1 Section 5.5, 5.6, 5.7 Section 6 Section 7
<ul style="list-style-type: none"> <li>b) ensure no fixed outdoor lights shine above the horizontal or above the building line or any illuminated structure;</li> </ul>	Section 5.7
<ul style="list-style-type: none"> <li>c) ensure that all external lighting associated with the development complies with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting;</li> </ul>	Section 5.7

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

d) implement a landscaping strategy to shield public views of the development that includes a road-side tree planting and maintenance schedule; and	Section 5.5 Section 6
e) ensure that the visual appearance of all noise walls/bunds, buildings, structures, facilities or works (including paint colours and specifications) is aimed at blending as far as possible with the surrounding landscape; to the satisfaction of the Secretary.	Section 5.4.2 Section 5.5 Section 5.6 Section 6
<b>VISUAL - Visual Impact Management Plan</b>	
B33. The Applicant must prepare a Visual Impact Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	
a) be prepared by a suitably qualified and experienced person/s;	Section 1.1
b) be prepared in consultation with WCC and CCC;	Section 1.5 Appendix A
c) be approved by the Secretary prior to the commencement of mining operations under this consent;	Section 1.3
d) describe the measures to be implemented to minimise the visual and off-site lighting impacts of the development;	Section 5.4.2 Section 5.7 Section 6 Section 7 Section 8
e) include a landscaping strategy to shield public views of the development that includes a road-side tree planting and maintenance schedule; and	Section 5.4.2 Section 5.5 Section 5.6 Section 6 Section 7 Section 8
f) include a program to monitor and report on the implementation and effectiveness of the mitigation measures.	Section 6
B34. The Applicant must implement the visual Impact management Plan as approved by the Planning Secretary.	Section 1.5.2
<b>Adaptive management</b>	
F4. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in this consent. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation, notwithstanding offsetting actions taken.  Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:	Section 7.1 and 7.2

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

<ul style="list-style-type: none"> <li>a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not re-occur;</li> <li>b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other courses of action;</li> <li>c) within 14 days of the exceedance occurring, submit a report to the Secretary describing these remediation options and any preferred remediation measures or other course of action; and</li> <li>d) implement remediation measures as directed by the Planning Secretary to the satisfaction of the Secretary</li> </ul>	<p>Section 5.1 and 6.2</p> <p>Section 5.1 and 6.2</p> <p>Section 6.2</p> <p>Section 5.1 and 6.2</p>
<b>Management Plan requirements</b>	
F5. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	
<ul style="list-style-type: none"> <li>a) a summary of relevant background or baseline data;</li> </ul>	Section 4
<ul style="list-style-type: none"> <li>b) details of: <ul style="list-style-type: none"> <li>i) the relevant statutory requirements (including any relevant consent, licence or lease conditions);</li> <li>ii) any relevant limits or performance measures and criteria; and</li> <li>iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures.</li> </ul> </li> </ul>	<p>Section 3.2</p> <p>Section 5.4.2</p> <p>Section 6</p> <p>Section 7</p>
<ul style="list-style-type: none"> <li>c) any relevant commitments or recommendations identified in the document/s listed in condition A2;</li> </ul>	Section 3.3
<ul style="list-style-type: none"> <li>d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;</li> </ul>	<p>Section 5</p> <p>Section 6</p> <p>Section 7</p>
<ul style="list-style-type: none"> <li>e) a program to monitor and report on the: <ul style="list-style-type: none"> <li>i) impacts and environmental performance of the development; and</li> <li>ii) effectiveness of the management measures set out pursuant to condition F5(c).</li> </ul> </li> </ul>	Section 6
<ul style="list-style-type: none"> <li>f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;</li> </ul>	Section 7
<ul style="list-style-type: none"> <li>g) a program to investigate and implement ways to improve the environmental performance of the development over time;</li> </ul>	<p>Section 6</p> <p>Section 8</p>
<ul style="list-style-type: none"> <li>h) a protocol for managing and reporting; <ul style="list-style-type: none"> <li>i) incident, non-compliance or exceedance of any impact assessment criterion or performance criterion;</li> <li>ii) complaint; or</li> <li>iii) failure to comply with other statutory requirements.</li> </ul> </li> </ul>	Section 6
<ul style="list-style-type: none"> <li>i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and</li> </ul>	<p>Section 6.4</p> <p>Section 8.1</p> <p>Section 8.3</p>

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

j) a protocol for periodic review of the plan.	Section 8.4
<b>Revision of strategies, plans and programs</b>	
<p>F7. Within three months of:</p> <ul style="list-style-type: none"> <li>a) the submission of an incident report under condition F9;</li> <li>b) the submission of an Annual Review under condition F11;</li> <li>c) the submission of an Independent Environmental Audit under condition F13; or</li> <li>d) the approval of any modification of the conditions of this consent (unless the conditions require otherwise).</li> </ul> <p>The suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.</p>	Section 8.4
<p>F8. If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within 6 weeks of the review.</p> <p>Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.</p>	Section 8.4
<b>Incident notification</b>	
<p>F9. The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must identify the development (including the development application number and name) and set out the location and nature of the incident.</p>	Section 6.2.1
<b>Non-Compliance notification</b>	
<p>F10. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must set out the condition of this consent that the development is noncompliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the noncompliance.</p> <p>Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.</p>	Section 6.2.2
<b>Annual review</b>	
<p>F11. By the end of March each year after the commencement of the development under this consent, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary. This review must:</p> <ul style="list-style-type: none"> <li>a) describe the development (including any rehabilitation) that was carried out in the previous calendar year and the development that is proposed to be carried out over the current calendar year;</li> </ul>	Section 8.1

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

<ul style="list-style-type: none"> <li>b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, including a comparison of these results against the: <ul style="list-style-type: none"> <li>i) relevant statutory requirements, limits or performance measures/criteria;</li> <li>ii) requirements of any plan or program required under this consent;</li> <li>iii) monitoring results of previous years; and</li> <li>iv) relevant predictions in the document/s listed in condition A2(c).</li> </ul> </li> <li>c) identify any non-compliance or incident which occurred in the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid recurrence;</li> <li>d) evaluate and report on: <ul style="list-style-type: none"> <li>i) the effectiveness of the noise and air quality management systems; and</li> <li>ii) compliance with the performance measures, criteria and operating conditions of this consent.</li> </ul> </li> <li>e) identify any trends in the monitoring data over the life of the development;</li> <li>f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and</li> <li>g) describe what measures will be implemented over the next calendar year to improve the environmental performance of the development.</li> </ul>	
<p>F12. Copies of the Annual Review must be submitted to WCC, WSC and made available to the CCC and any interested person upon request.</p>	<p>Section 8.1</p>
<p><b>Independent environmental audit</b></p>	
<p>F13. Within one year of commencement of development under this consent, and three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. The audit must:</p> <ul style="list-style-type: none"> <li>a) be prepared in accordance with the Independent Audit Post Approval Requirements (Department 2020 or as updated);</li> <li>b) be led and conducted by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Planning Secretary;</li> <li>c) be conducted by a suitably qualified, experienced and independent team of experts (including any expert in field/s specified by the Planning Secretary) whose appointment has been endorsed by the Planning Secretary;</li> <li>d) be carried out in consultation with the relevant agencies and the CCC;</li> <li>e) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent, water licences and mining leases for the development (including any assessment, strategy, plan or program required under these approvals);</li> <li>f) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals and this consent;</li> </ul>	<p>Section 8.2</p>

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

<p>g) recommend appropriate measures or actions to improve the environmental performance of the development and any assessment, strategy, plan or program required under the abovementioned approvals and this consent; and</p> <p>h) be conducted and reported to the satisfaction of the Planning Secretary.</p>	
<p>F14. Within three months of commencing an Independent Environmental Audit, or other timeframe agreed by the Planning Secretary, the Applicant must submit a copy of the audit report to the Planning Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the Planning Secretary.</p>	Section 8.2
<b>Monitoring and environmental audits</b>	
<p>F15. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&amp;A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit. For the purposes of this condition, as set out in the EP&amp;A Act, “monitoring” is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an “environmental audit” is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.</p>	Section 8.2
<b>Access to information</b>	
<p>F17. Before the commencement of construction until the completion of all rehabilitation required under this consent, the Applicant must:</p> <p>(a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website:</p> <ul style="list-style-type: none"> <li>i) The documents referred to in condition A2(c) of this consent.</li> <li>ii) All current statutory approvals for the development.</li> <li>iii) All approved strategies, plans and programs required under the conditions of this consent.</li> <li>iv) The proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged.</li> <li>v) Minutes of CCC meetings.</li> <li>vi) Regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent.</li> <li>vii) A comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs.</li> </ul>	<p>Section 6.3</p> <p>Section 8.3</p>



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

viii)	A summary of the current phase and progress of the development.	
ix)	Contact details to enquire about the development or to make a complaint.	
x)	A complaints register, updated monthly.	
xi)	the Annual Reviews of the development.	
xii)	Audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report.	
xiii)	Any other matter required by the Planning Secretary.	
(b) keep such information up to date, to the satisfaction of the Planning Secretary.		

### 3.3 Statement of Commitment (SoC)

Table 4 outlines the statement of commitments from the RPPR relevant to this VIMP.

**Table 4- Statement of Commitment (SoC)**

Statement	Timing	Section addressed in plan
<p>WCL will implement the following measures to improve the visual amenity of the site and minimise the visual impact of the Revised Preferred Project:</p> <ul style="list-style-type: none"> <li><i>The container noise wall will be coloured in non-reflective grey/green tones to minimise contrast against the surrounding environment.</i></li> <li>Bunds surrounding the Pit Top will be progressively rehabilitated, spread with topsoil and planted with a selection of native species as soon as practical once final bund height is achieved.</li> <li>Existing vegetation outside the Pit Top disturbance area will be regularly maintained and supplemented or replaced if necessary, to maintain visual screening.</li> <li>Areas of disturbance will be kept to the minimum practicable and rehabilitated as soon as practical.</li> <li>Proposed coal handling infrastructure will be coloured in non-reflective natural tones to minimise contrast against the surrounding environment.</li> <li>All outdoor lighting will be installed and operated in accordance with Australian Standard AS4282 (INT) 1995 – Control of the Obtrusive Effects of Outdoor Lighting, including measures such as directing lighting downwards towards work areas and not toward private residences and roads, and where appropriate, using shields to limit the emission of light off site.</li> </ul>	Ongoing	<p>Section 5.5</p> <p>Section 5.6</p> <p>Section 5.5</p> <p>Section 6</p> <p>Section 5.5.4</p> <p>Section 5.7</p> <p>Section 7</p> <p>Section 5.5.4</p> <p>Section 5.6</p> <p>Appendix B</p> <p>Section 5.7</p> <p>Section 6</p>



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

### 3.4 Statutory Controls and Strategic Management Plans

Along with the conditions of Development Consent and Statements of Commitment, as outlined in Section 3.2 and Section 3.3, the following documents have been considered in the preparation of the Visual Impact Management Plan:

- Wollongong Development Control Plan 2009  
Part B – Land Use Based Controls  
Chapter B6 Development in the Illawarra Escarpment.
- Illawarra Escarpment Strategic Management Plan 2015  
Wollongong City Council.
- Australian Standard AS4282 (INT) 2019 – Control of the Obtrusive Effects of Outdoor Lighting.

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

## 4 EXISTING ENVIRONMENT

### 4.1 Existing Landscape Setting

The existing environment and landscape character “gives a geographic area its visual and cultural image, and consists of the combination of physical, biological and cultural attributes that make each landscape identifiable or unique. Landscape character embodies distinct landscape attributes that exist throughout an area.” Forest Service, 1995, 1-2-Landscape Character.

The existing environment of the Russell Vale Colliery and surrounding context was described in section 5.9 Land Resources of the *Russell Vale Colliery Revised Underground Expansion Project*, Submission Report – Part A (Final) by Umwelt, November 2019.

#### 4.1.1 Regional Setting

The regional setting is characterised by “steep slopes of the Illawarra Escarpment and the urban development on the lower slopes at the base of the escarpment. Large areas of undeveloped, densely vegetated land are located west of the Illawarra Escarpment, along with transport and utilities infrastructure, waterbodies and other mining related infrastructure (Umwelt, 2019 Russell Vale Colliery Revised Underground Expansion Project, Submission Report – Part A (Final) p.125).

#### 4.1.2 Local Setting

Locally the Russell Vale Colliery is located at the foot of the Illawarra Escarpment, “against the backdrop of its steep and densely vegetated slopes.” (Umwelt, 2019 Russell Vale Colliery Revised Underground Expansion Project, Submission Report – Part A (Final) p.125).

Figure 3 shows the Russell Vale Pit Top (Study Site) situated at the end of Bellambi Lane. The Pit Top is bordered by areas of Low Density Residential (R2) and Russell Vale Golf Club (RE1) to the north and Low Density Residential (R2) of Corrimal to the South. Bellambi Lane is lined by Low Density Residential (R2) to the north and Light Industrial (IN2) to the south.

### 4.2 Visual Environment

The visual environment of the Russell Vale Colliery Pit Top area is described in Section 3.2.2 Land Updated Visual Amenity Assessment of the *Russell Vale Colliery Revised Underground Expansion Project*, Submission Report – Part A (Final) by Umwelt, November 2019.

### 4.3 Scenic Value

The visual quality of the escarpment is generally regarded as “exceptional or very high”. “A Visual Quality Analysis of Escarpment Scenic Values undertaken on behalf of Council in 2006 identified several precincts of distinctive character with varying levels of visual value”. (HLA-Envirosciences, 2007, as cited in Wollongong City Council, 2015 Illawarra Escarpment Strategic Management Plan 2015, p.30). The Illawarra Escarpment Strategic Management Plan 2015 states the following scenic values to be preserved or enhanced:

- Escarpment as a vegetated backdrop to Wollongong coastal plain.
- Escarpment ridges, spurs, valleys and creeks.
- Scenic rural interface between the vegetated escarpment and urban development.
- Opportunity for dramatic lookouts over the coastal plain.

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

The Illawarra Escarpment contains ten precincts determined through the evaluation. These ten precincts have been evaluated on their landform scarcity, vegetation significance, and built environment features and subsequently ranked as:

- unique;
- repetitive; or
- common.

(Wollongong City Council, 2015 Illawarra Escarpment Strategic Management Plan 2015, pp.30 - 32).

The Russell Vale Colliery's Eastern most precinct (The Study Site) is located within the "Coastal Ridges" Precinct of the Illawarra Escarpment and has been categorised by the following values:

- Landform Scarcity – Repetitive.
- Vegetation Significance – Unique.
- Built Environment Features – Repetitive.

#### 4.4 Topography

The Study Site shown in Figure 3 of Russell Vale Colliery's eastern most extent, including the; Administration Building and Pit Top which incorporates car parking, associated workshops, dams, reservoirs, belt portals and conveyors and stockpiles is located within the Bellambi Gully Creek Catchment. The Pit Top is located at the lower extent of the study site and is nestled within the natural ridges and manmade bunds of vegetated topography towards the northern and southern boundaries (refer Figure 3).

Figure 3.4 of Section 3.2.2 Land Updated Visual Amenity Assessment of the *Russell Vale Colliery Revised Underground Expansion Project*, Submission Report – Part A (Final) by Umwelt, November 2019 illustrates through a viewshed analysis that the terrain visible from an elevated viewpoint location on site and the extent of screening provided by the vegetated elevated ridges and manmade bunds surrounding the Pit Top area.

The Study Site with its vegetated ridges and valleys is a common edge condition at the foot of the Illawarra Escarpment. This edge condition is dominated by more natural and vegetated ridges, spurs, valleys and creeks, less suitable and "a barrier to development" (*Wollongong City Council, 2015 Illawarra Escarpment Strategic Management Plan 2015, p.45* interdigitated with more built-up developed areas.

#### 4.5 Edge Conditions

The edge condition are the mix of "hard and soft" boundaries of National Parks & Natural Reserves (E1), Environmental Conservation (E2), Environmental Management (E3) and Public Recreation (RE1) interdigitated with more developed landscape zones consisting of; Environmental Living (E4), Low Density Residential (R2) and connected patches of Light Industrial (IN2). Landscape corridors of open space and tree planting continue through the more developed landscape zones following natural and manmade water courses and street tree planting.

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

These planted corridors supplemented with planting within private residential lots, and public recreation zones such as parks, Russell Vale Golf Club and schools provide a layering of landscape and tree planting. Coupled with the steepening topography rising to the west the medium to long district views towards the Illawarra Escarpment and Brokers Point lookout are maintained whilst the surrounding immediate context is generally softened or screened.

#### 4.6 Existing Treatment

The Russell Valle Colliery has systematically carried out a series of landscape works to minimise views and visual impact to the surrounding immediate context. These works include:

- Primary screen planting – Boundary:
  - along the eastern site boundary to:
    - 6 – 30 West Street;
  - along the northern site boundary to Broker Street;
  - along east site boundary to Princes Highway; and
  - along southern boundary to:
    - 19 – 31 Lydon Street; and
    - 12 – 46 Lydon Street.
- Secondary screen topography / planting – Bunds:
  - Bund 3; and
  - Bund 4.
- Tertiary screen topography – Bunds:
  - Bund 1; and
  - Bund 2.



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		



Figure 7 – Russell Vale Pit Top Proposed Plant and Infrastructure Plan



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		



Figure 8 – Landscape Planting Plan



## 5 MITIGATION AND MANAGEMENT STRATEGIES

### 5.1 General Commitment

In addition to meeting the specific performance measures and criteria established under the Consent, the Colliery will implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the project, and any rehabilitation required under this consent. In accordance with Condition F4(d), any remediation measures as directed by the Planning Secretary will be implemented.

### 5.2 Magnitude of Change

The expected extent of change that will be experienced by the identified receptors is negligible or minimal over the current condition outlined in Section 3.2.2 of the Updated Visual Impact Assessment in *Russell Vale Colliery Revised Underground Expansion Project, Submission Report – Part A (Final)* (Umwelt 2019). The following factors have been considered in assessing the magnitude of change:

- the proportion of the view / landscape affected;
- extent of the area over which the change occurs;
- the size, scale, rate and duration of the change; and
- the level of contrast and compatibility.

### 5.3 Receptors

The updated visual impact photographic recording confirmed the “Representative Viewpoint Locations” presented in Section 5.4 Updated Visual Amenity Assessment of the *Russell Vale Colliery Revised Underground Expansion Project, Submission Report – Part A (Final)* by Umwelt, November 2019. The updated photographic recording (refer Figures 9, 10 and 11) shows the areas range from no visual impact to partial screened views to existing areas / infrastructure of the Pit Top Area, including Administration Building and ROM Coal Conveyor.

### 5.4 Viewpoints

Viewpoints identified in the updated Visual Amenity Assessment for the Russell Vale Colliery Pit Top have been reviewed in the consideration of potential visual disturbance of the proposed associated Pit Top works for Russell Vale Colliery Underground Expansion Project shown in Figures 9, 10 and 11. These viewpoints include:

- Viewpoint 1 – 30 West Street, Russell Vale NSW 2517;
- Viewpoint 2 - 3 Broker Street, Russell Vale NSW 2517;
- Viewpoint 3 – 52 Rixons Pass Road, Woonona NSW 2517;
- Viewpoint 4 – 9A Moreton Street, Russell Vale NSW 2517;
- Viewpoint 5 – 77 Bellambi Lane, Bellambi NSW 2518;
- Viewpoint 6 – 84 Princes Highway, Corrimal NSW 2518;
- Viewpoint 7 – 62 Midgley St, Corrimal NSW 2518;
- Viewpoint 8 – Corner of Midgley and Wilford Street, Corrimal NSW 2518; and
- Viewpoint 9 – Lyndon St, Corrimal NSW 2518.

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		



1 Viewpoint looking South West towards the Pit Top facilities from West Street.



2 Viewpoint looking West towards the Pit Top from Broker Street.



3 Viewpoint looking South towards the Pit Top facilities from Rixons Pass Road.

**LEGEND**

-  UEP Project Application Area
-  Contours 1m Intervals
-  Lot Boundaries
-  Viewpoints surrounding the Russell Vale Pit Top

**McINTOSH&PHELPS**  
ARCHITECTURE  
LANDSCAPE ARCHITECTURE



0 75 150 375  
Scale 1:7500@A3

FIGURE 6  
Viewpoint Locations - Sheet 1

**Russell Vale Colliery**  
**Wollongong**

29 February 2021

**Figure 9 - Viewpoint Locations – Sheet 1**



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		



4 Viewpoint looking South West towards the Pit Top facilities and Administration Building from Moreton Street.



5 Viewpoint looking West towards the Pit Top from Bellambi Lane.



6 Viewpoint looking North West towards the Pit Top facilities from corner of Princess Highway and Albert Street.

**LEGEND**

-  UEP Project Application Area
-  Contours 1m Intervals
-  Lot Boundaries
-  Viewpoints surrounding the Russell Vale Pit Top

**McINTOSH&PHELPS**  
ARCHITECTURE  
LANDSCAPE ARCHITECTURE



0 75 150 375  
Scale 1:7600@A3

FIGURE 7  
Viewpoint Locations - Sheet 2

**Russell Vale Colliery**  
**Wollongong**

25 February 2021

Figure 10 - Viewpoint Locations – Sheet 2



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		



7 Viewpoint looking North West towards the Pit Top facilities from Midgley Street.



8 Viewpoint looking North West towards the Pit Top and Administration Building from Wilford Street.



9 Viewpoint looking North towards the Pit Top facilities from Lyndon Street.



**McINTOSH&PHELPS**  
ARCHITECTURE  
LANDSCAPE ARCHITECTURE



0 75 150 375  
Scale 1:7500 @ A3

FIGURE 8  
Viewpoint Locations - Sheet 3

**Russell Vale Colliery**  
**Wollongong**

23 February 2021

**Figure 11 - Viewpoint Locations – Sheet 3**

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

#### 5.4.1 Impacts to Viewpoints

The following views have been identified as containing minor visual impacts of partial screened views to existing areas / infrastructure of the Pit Top Area, including Administration Building and ROM Coal Conveyor:

- Viewpoint 1 – 30 West Street, Russell Vale NSW 2517;
- Viewpoint 2 - 3 Broker Street, Russell Vale NSW 2517;
- Viewpoint 4 – 9A Moreton Street, Russell Vale NSW 2517; and
- Viewpoint 5 – 77 Bellambi Lane, Bellambi NSW 2518.

#### 5.4.2 Viewpoint Mitigation

Figure 1.5 of Section 3.2.2 Land Updated Visual Amenity Assessment of the *Russell Vale Colliery Revised Underground Expansion Project*, Submission Report – Part A (Final) by Umwelt, November 2019, shows the “Current and Proposed Plant and Infrastructure with Revised Noise Mitigation Structures” and has now been updated to include a landscaping strategy overlay to shield public views of the development, as detailed in Figures 7, 8, 12, 13 and 14. The parameters, target and key performance indicators of the amended proposed mitigation measures illustrated this figure have been summarised in Table 5.

**Table 5 – Performance Criteria**

Parameter	Target	Key Performance Indicator	Timing & Program <sup>1</sup>
Visual Bunding	Provide screening from identified sensitive viewpoints.	Existing and proposed visual bunding illustrated in Figure 7,8 and 15 to contribute to the screening of the Pit Top and associated mining infrastructure from identified sensitive viewpoints (Figure 9, 10 and 11).	Existing and proposed visual bunding to be established within the first 6 months of mining operations.
Screen Planting	Provide planting to screen identified sensitive viewpoints.	Planting to existing and proposed visual bunding illustrated in Figure 7, 8 and 15 to contribute to the screening of the Pit Top and associated mining infrastructure from identified sensitive viewpoints (Figure 7 & 8).	Bund and landscape planting to be carried out within the first 6 months of mining operations.
Noise Walls	Materials and finishes to noise walls to blend in with the surrounding landscape as much as possible.	Materials and finishes to proposed noise walls illustrated in Figure 7, 8 and 15 and Appendix B to contribute to the screening of the Pit Top and associated mining infrastructure from identified sensitive viewpoints (Figure 9, 10 and 11).	Materials and finishes to noise walls and new building treatment to be implemented prior to commencement of mining operations.
Building Treatment	Materials and finishes to built structures to blend in with the surrounding landscape as much as possible.	Materials and finishes to building treatments illustrated in Figure 7, 8 and 15 and Appendix B to contribute to the screening of the Pit Top and associated mining infrastructure from identified sensitive viewpoints (Figure 9, 10 and 11).	Materials and finishes to building treatment to be implemented during mining operations.

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

Parameter	Target	Key Performance Indicator	Timing & Program <sup>1</sup>
Lighting	Minimise light emissions off-site and from identified sensitive viewpoints.	<p>Minimise impacts of light emissions to surrounding neighbours and ensure compliance with the Australian Standard AS4282 – Outdoor Lighting Obtrusive Effects and (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting, in terms of:</p> <ul style="list-style-type: none"> <li>• lighting type</li> <li>• quantity of lights</li> <li>• horizontal conformance</li> <li>• obtrusive light or reflection to the relevant boundary.</li> </ul>	<p>An initial audit of the existing lights at RVC, against Australian Standard AS4282, will be conducted within 3 months of this VIMP being approved by the secretary. A Corrective Action Plan (CAP) will be developed to rectify any non-conformances with the standard, and the corrective actions will be implemented within 3 months of the CAP being developed..</p> <p>Internal audits will be conducted on a monthly basis and corrective actions addressed through a work order system to ensure compliance.</p> <p>Annual external lighting audits will be conducted by an independent consultant to confirm compliance with AS4282, with recommendations and actions reported in the Annual Review</p>

Note: 1. See Chapter 2 and Section 5.6 for further information on staging of the project.



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		



Key Plan

**View 1**  
Looking East towards Bund 1.  
Russell Vale residential area beyond identified as subjected to visual impact of proposed noise wall.

Taken at the "viewpoint" location nominated in Section 8.2.2 Updated Visual Amenity Assessment Russell Vale Colliery Revised Underground Expansion Project, Submission Report – Part A (Final) by Urmwel, November 2019

Photo taken at eye height from RL55 (Below Existing Surge Bin)

Focal length 62mm



**View 1**  
Looking East towards Bund 1.  
Russell Vale residential area beyond identified as subjected to visual impact of proposed noise wall.

**LEGEND**  
Zone of Visual Impact  
Noise Wall  
Top of Existing Bund

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0 7.5 15  
Scale 1:750@A3

FIGURE 9  
Internal Viewpoint - Sheet 1

**Russell Vale Colliery**  
**Wollongong**

23 February 2021

Figure 12 - Internal Viewpoint – Sheet 1



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		



**Key Plan**

**View 2**  
Looking East towards Bund 1.  
Russell Vale residential area beyond identified as subjected to visual impact of proposed noise wall.

Taken at the "viewpoint" location nominated in Section 8.2.2 Updated Visual Amenity Assessment Russell Vale Colliery Revised Underground Expansion Project, Submission Report – Part A (Final) by Urmwel, November 2019

Photo taken at eye height from RL55 (Below Existing Surge Bin)

Focal length 52mm



**View 2**  
Looking East towards Existing Bund 1, Bund 4 beyond  
Russell Vale residential area highlighted beyond identified as subjected to visual impact of proposed noise wall.

**LEGEND**

- Zone of Visual Impact
- Noise Wall
- Top of Existing Bund

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ARCHITECTURE  
LANDSCAPE ARCHITECTURE



0 7.5 15  
Scale 1:750@A3

**FIGURE 10**  
Internal Viewpoint - Sheet 2

**Russell Vale Colliery**  
**Wollongong**

23 February 2021

**Figure 13 - Internal Viewpoint – Sheet 2**

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		



Key Plan

**View 1**  
Looking East towards Bund 1.  
Russell Vale residential area beyond identified as subjected to visual impact of proposed noise wall.  
Taken at the "viewpoint" location nominated in Section 3.2.2 Updated Visual Amenity Assessment Russell Vale Colliery Revised Underground Expansion Project, Submission Report – Part A (Final) by Umwelt, November 2019  
Photo taken at eye height from RL55 (Below Existing Surge Bin)  
Focal length 62mm



**View 3**  
Looking East towards Existing Bund 1 and Bund 4.

**LEGEND**  
Zone of Visual Impact  
Noise Wall  
Top of Existing Bund

**McINTOSH&PHELPS**  
ARCHITECTURE  
LANDSCAPE ARCHITECTURE



0 7.5 15  
Scale 1:750@A3

**FIGURE 11**  
Internal Viewpoint - Sheet 3

**Russell Vale Colliery**  
**Wollongong**

23 February 2021

**Figure 14 - Internal Viewpoint – Sheet 3**

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

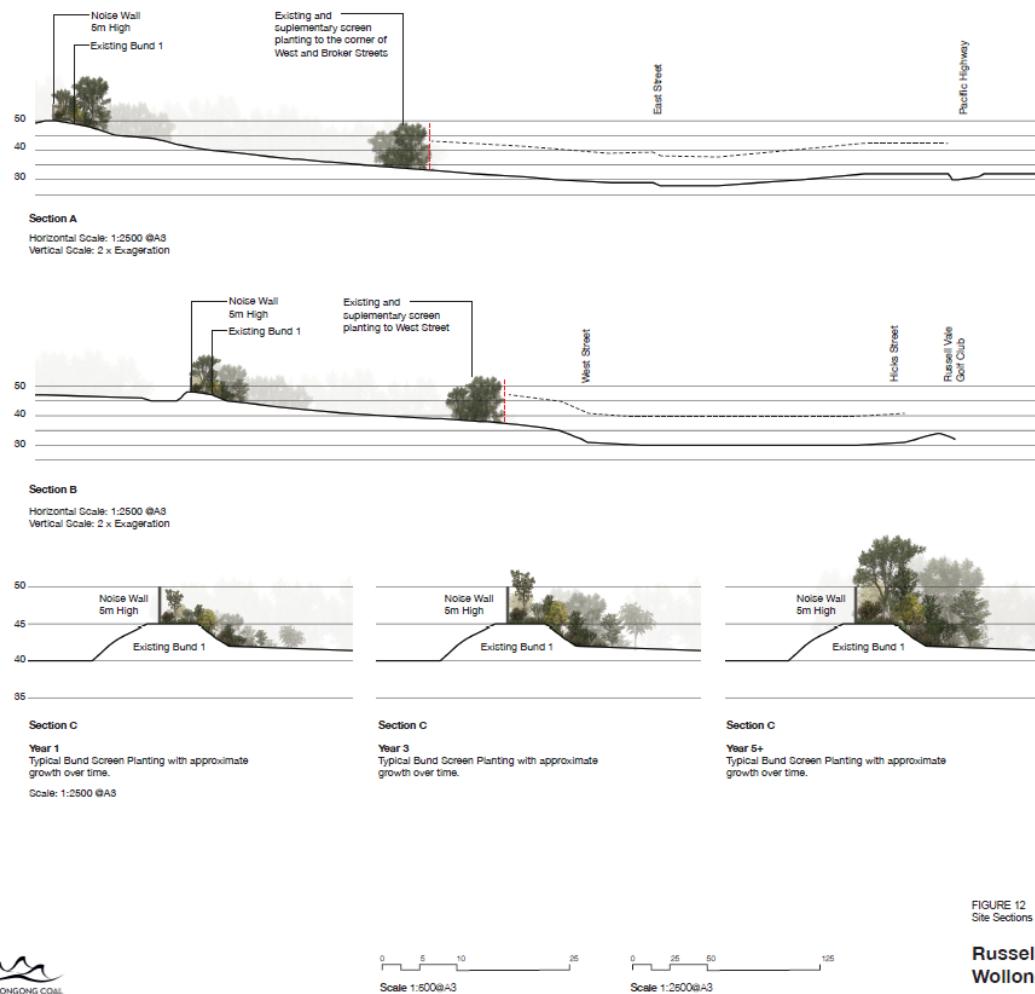


FIGURE 12  
Site Sections

**Russell Vale Colliery**  
**Wollongong**

23 February 2021

**Figure 15 - Site Sections**

## 5.5 Landscape Strategy

### 5.5.1 Visual Bunds

The Pit Top area of Russell Vale Colliery currently contains a series of five landscaped bunds which act as acoustic and visual bunds. Three of the bunds are vegetated with screen planting. These Visual Bunds provide effective screening of views from the immediate context and minimise the visual impact of the site contributing significantly to the landscape strategy.

Figures 7 and 8 illustrate the following proposed modification to the visual bunds outlined in the *Russell Vale Colliery Revised Underground Expansion Project, Submission Report – Part A (Final)* (p.26):

- **Bund 1**- Existing Bund 1 to be retained with the proposed addition of:
  - flood levee extension to western end;
  - 5 m high noise wall on top of the existing bund; and
  - new screen planting.
- **Bund 2 / 3** – Existing Bund 2 and 3 to marry into Bund 4 with the addition of:
  - new screen planting and supplementary screen planting.
- **Bund 4** – Existing Bund 4 to be retained with the proposed addition of:
  - 4 m high noise wall to northern extent of bund;
  - new screen planting to northern extent; and
  - supplementary screen planting to eastern and southern extent.
- **Bund 5** – Length of existing Bund 5 to be reduced from 100 m to 67 m to accommodate high voltage powerline running along the internal site access road and proposed addition of:
  - vegetation to screen views at the end of Broker Street; and
  - increased bund height by 3 m to RL56 m.

### 5.5.2 Tree and Screening Planting

In combination with the visual bunds described in Section 5.5.1, screening planting including trees have the potential to most effectively mitigate identified visual impacts from the approved infrastructure and mining operations outlined in Section 4.

The landscape Strategy will include dense landscape planting to the visual bunds as well as roadside landscape and tree planting along adjoining sections of West Street and supplementary planting along Broker Street (refer Figure 8). It is noted that the existing landscape and tree planting to Broker Street (refer Figure 9, Image 2) and Princes Highway (refer Appendix B, Photo 2 and 3) currently provides successful screening to the Russell Vale Colliery Pit Top.

Additional planting is also proposed along sections of the Entry Road (refer Figure 8). The tree and screen planting nominated as part of the Landscape Strategy also allows the opportunity to further improve the biodiversity conditions with the planting of a variety of native species indigenous to the Illawarra Region as recommended in Section 12 – General Requirements outlined in Part B – Land Use Based Controls of the Wollongong DCP 2009, Chapter B06 – Development in the Illawarra Escarpment (p.19).

This approach also works towards strengthening the Regional Strategy outlined in the Illawarra Biodiversity Strategy 2011. This strategy identifies the study site as occupying an area of the Illawarra Lowlands Grassy Woodlands, an Endangered Ecological Community (EECs) of the Illawarra, which can be found along the Illawarra coastal plain and escarpment foothills.

However, "due to the high level of vegetation clearing on the coastal plain for agriculture, industry and residential development, most vegetation types that occur on the Illawarra coastal plain are now listed as an Endangered Ecological Community." (Illawarra Biodiversity Strategy, 2011). The Illawarra Lowlands Grassy Woodlands community is listed as threatened under the NSW Threatened Species Conservation (TSC) Act and identified as the "Highest Priority" in the Illawarra Biodiversity Strategy 2011. "Characteristic tree species include Forest Red Gum, *Eucalyptus tereticornis*, Thin-leaved Stringybark, *Eucalyptus eugenioides*, Woollybutt, *Eucalyptus longifolia*, Coast Grey Box, *Eucalyptus bosistoana* and White Feather, Honey-myrtle, *Melaleuca decora*. The understorey is not necessarily grassy as moist forest vegetation types are also included within this broad community. Common shrub species include *Acacia mearnsii* and *Dodonaea viscosa* subsp. *angustifolia*." (Office of Environment & Heritage, NSW Government, 2021).

The plant species list outlined in Table 6 and Table 7 are selected species listed by the DPIE for the Illawarra Lowlands Grassy Woodlands community to be planted in specific "dry" and "wet" locations. New screen planting zones are illustrated in Figure 8.

**Table 6 - (Dry) Illawarra Escarpment Blackbutt forest**

Scientific Name	Common Name	Plant Density (PP1)
<b>Ground cover / grasses</b>		
<i>Carex longibrachiata</i>	Australian sedge	1 plant per 2 square metres
<i>Imperata cylindrica</i>	Blady Grass	1 plant per 2 square metres
<i>Lomandra longifolia</i>	Spiny-headed Mat Rush	1 plant per 2 square metres
<b>Shrubs/small trees</b>		
<i>Acacia implexa</i>	Hickory wattle	1 plant per 3 square metres
<i>Acacia maidenii</i>	Maiden's wattle	1 plant per 3 square metres
<i>Acacia mearnsii</i>	Black wattle	1 plant per 3 square metres
<i>Acmena smithii</i>	Lilly Pilly	1 plant per 3 square metres
<i>Banksia integrifolia</i>	Coastal Banksia	1 plant per 3 square metres
<i>Breynia oblongifolia</i>	Coffee Bush	1 plant per 3 square metres
<i>Melaleuca styphelioides</i>	Prickly-leaved paperbark	1 plant per 5 square metres
<b>Trees</b>		
<i>Eucalyptus botryoides/saligna</i>	Wollongong woollybutt	1 plant per 5 square metres



Scientific Name	Common Name	Plant Density (PP1)
<i>Eucalyptus paniculata</i> subsp. <i>paniculata</i>	Grey Ironbark	1 plant per 5 square metres
<i>Syncarpia glomulifera</i>	Turpentine	1 plant per 5 square metres

**Table 7 - (Wet) Illawarra lowland grassy woodland species**

Scientific Name	Common Name	Plant Density (PP1)
<b>Ground cover/grasses</b>		
<i>Carex longibrachiata</i>	Australian sedge	1 plant per 2 square metres
<i>Imperata cylindrica</i>	Blady Grass	1 plant per 2 square metres
<i>Lomandra longifolia</i>	Spiny-headed Mat Rush	1 plant per 2 square metres
<b>Shrubs/small trees</b>		
<i>Acacia maidenii</i>	Maiden's wattle	1 plant per 3 square metres
<i>Acacia mearnsii</i>	Black wattle	1 plant per 3 square metres
<i>Brachychiton populneus</i>	kurrajong	1 plant per 3 square metres
<i>Dodonaea viscosa</i> var <i>angustifolia</i>	Sand olive	1 plant per 3 square metres
<i>Melaleuca decora</i>	White feather honeymyrtle	1 plant per 3 square metres
<i>Melaleuca styphelioides</i>	Prickly-leafed paperbark	1 plant per 3 square metres
<b>Trees</b>		
<i>Eucalyptus amplifolia</i>	Cabbage gum	1 plant per 5 square metres
<i>Eucalyptus bosistoana</i>	Coast grey box	1 plant per 5 square metres
<i>Eucalyptus botryoides</i>	Bangalay	1 plant per 5 square metres
<i>Eucalyptus longifolia</i>	Woollybutt	1 plant per 5 square metres
<i>Eucalyptus tereticornis</i>	Forest red gum	1 plant per 5 square metres

### 5.5.3 Planting Approach

Planting of new landscape areas and supplementary planting to existing planting zones will use, as a general guide, NATSPEC Sections:

- 0251 Landscape – Soils;
- 0252 Landscape – Natural Grass Surfaces;

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

- 0253 Landscape – Plant Procurement; and
- 0254 Irrigation (If deemed required by landscape contractor).

New screen planting will be selected to ensure a diverse range of species types are utilised. A mix of advanced tree and shrub species will be utilised to provide a more immediate partial screening. Plant species will be arranged and planted in three distinct tiers of; low groundcovers, medium shrub layer and taller tree planting to provide improved:

- screening;
- erosion control and minimisation of run-off and overland flow to surrounding areas; and
- improved habitat for local fauna.

In addition to the above approach to planting, Pioneer Species are included as part of the planting selection. Pioneer Species such as Acacia sp. (Wattles) are 'fast growing, but short lived'. Acacia sp. will establish quickly, providing an adequate screening and habitat in the short term whilst also improving the soil conditions before being gradually replaced by the planted groundcovers, shrubs and tree planting species. (Australian Native Plants Society (Australia), 2021).

The planting approach will also coordinate and adopt recommendations outlined in studies and reports prepared during the environmental assessment process, in particular:

- water;
- biodiversity;
- bushfire management; and
- rehabilitation.

#### 5.5.4 Landscape Establishment, Maintenance, and Weed Control

Due to the proximity and connection of the Russell Vale Colliery to the Illawarra Escarpment State Conservation Area suitable landscape establishment, ongoing maintenance, including weed control will be treated as a priority and areas of disturbance will be kept to the minimum practicable and rehabilitated as soon as practical. "Effectively managing weeds demands a collaborative approach between landholders, community groups, industries and all levels of government." (Invasive Plants and Animals Committee 2016, p.1).

Landscape establishment and ongoing scheduled maintenance, including weed control to be carried out in all landscape areas including new and existing planting zones. The principles outlined in the following NATSPEC Sections will be used as a general guide:

- 0256 Landscape – Establishment;
- 0259 Landscape – Maintenance.

Maintenance staff / contractors will be knowledgeable in the identification and effective approach to managing and eradicating weeds from site.

The establishment and ongoing maintenance, including weed control will be coordinated to adopt recommendations outlined in studies and reports produced as part of the review and auditing process and help ensure improved environmental performance. Any recommendations and proposed actions will be included in the Annual Review.

The company will regularly maintain and supplement or replace existing vegetation outside the Pit Top disturbance area as detailed in the Statement of Commitments.



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

## 5.6 Noise Walls, Building and Infrastructure Treatment

The proposed works for the Russell Vale Colliery Expansion project will involve the removal of the existing surge bin (to occur within 6 months of commencement of operations) and the erection and installation of new infrastructure (see Chapter 2 for further detail on staging) at the Pit Top location as described in Section 2.1.2, including placement of prefabricated acoustic panel to create noise walls.

To ensure the proposed noise walls and building treatment will have a minimal visual impact on the surrounding landscape and neighbouring areas building materials and finishes will be:

- non-reflective;
- orientated building cladding vertically (for example corrugated metal cladding to blend in more with the verticality of proposed and existing tree trunks; and
- new noise walls and building works materials and finishes to be coloured to match the existing natural landscape. Any future building works and upgrades to consider similar approaches to materials and finishes outlined in this Management Plan.

The “Colorbond” and Dulux paint colour “Ironstone” has been selected as the most suitable paint treatment and colour to noise walls and new building works to minimise the visual impact and allow the proposed noise walls and general building treatments and cladding to blend in as far as possible with the surrounding landscape.

Site photographs were captured with a Colour Reference Card. A Reference Target and Camera Calibration Software was subsequently used to adjust the colours of the photograph to accurately reflect the colours on site (Refer Appendix B).

The colour values (CMYK) of “Colorbond” and matching “Dulux” paint colours (Refer Appendix B) have been evaluated against the calibrated site photos through a photo editing and manipulation software. The above process identified “Ironstone” as the most suitable “Colorbond” colour to minimise the visual impacts of the proposed noise walls and mining infrastructure is shown in Figure 7 and Figure 8.

## 5.7 Lighting

In accordance with Condition B32(a), WCL will take all reasonable steps to ensure that offsite lighting impacts from the development are minimised. These measures are detailed in the following sections.

### 5.7.1 General lighting impacts

Due to the 24 hours a day, 7 days a week allowable operation, the lighting strategy will minimise the visual and potential off-site lighting impacts of the proposed development by:

- having no fixed outdoor lights that shine above the horizontal or above the building line or any illuminated structure;
- minimising lighting and flood lighting aimed in the direction of site boundaries;
- designing carpark lighting to face away from the community and nearest receivers; and
- install timers or automatic sensors to minimise lighting when it is not required for safety and security purposes.

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

To ensure that all external lighting designs and installation associated with the existing development are appropriate, the following measures will be implemented:

- lighting will be installed and operated in a manner to ensure compliance with Australian Standard AS4282 (INT) 2019 – Control of Obtrusive Effects of Outdoor Lighting;
- monthly internal lighting inspections to be carried out by staff as part of the work order system. This will ensure identification of lighting that require general maintenance such as cleaning, or repair;
- an initial audit of the existing lights at RVC, against Australian Standard AS4282, will be conducted within 3 months of this VIMP being approved by the secretary. A Corrective Action Plan (CAP) will be developed to rectify any non-conformances with the standard, and the corrective actions will be implemented within 3 months of the CAP being developed.
- annual external lighting audits will be conducted by an independent consultant to confirm compliance with AS4282, with recommendations and actions reported in the Annual Review;
- lights with fixed or adjustable lighting hoods and shrouds and or adjustable luminaire will be installed; and
- lights will not shine above the horizontal or above the building line or any illuminated structure.

A qualified lighting consultant / Electrical Engineer will be engaged to design, plan and implement a detailed lighting strategy for the life of the project of the project, with recommendations incorporated into future versions of the VIMP as appropriate.

### 5.7.2 Lighting impacts from Vehicles

Trucks for the transportation of ROM coal, product coal and coal reject from site is limited to 7am to 6pm Monday to Friday and 8am to 6pm Saturdays. Trucks arriving before these times are required to proceed to the truck parking area on site, turn off the engine until coal loading commences as outlined in Conditions A12 and A14.

Except for exceptional circumstances with written approval of the Planning Secretary where trucks may leave the site up until 10pm, impacts from truck lighting will have a minimum effect due to the hours of approved operation. The following mitigation measures will minimise the visual and off-site lighting impacts from vehicles to neighbouring properties:

- locate screen planting strategically along boundaries and internal roads;
- limit the requirement for vehicles to use high beam lighting through site inductions and driver training; and
- use existing physical barriers in the vicinity of the underground mine portal to screen lights from vehicles.

## 5.8 Visual Absorption Capacity

The measures outlined in Section 5.5 (Landscape Strategy), Section 5.5.1 (Visual Bunds), Section 5.5.2 (Tree and Screen Planting), Section 5.6 (Noise Walls / Building Treatment) and Section 5.7 (Lighting) have been nominated and arranged so as to blend in as far as possible with the surrounding landscape.

The removal of the existing surge bin and the proposed mitigation and management measures will ensure the adjoining and contextual landscape provides a good visual absorption capacity of the proposed landform, vegetation and built form shown in Figure 7 and Figure 8.

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

## 6 LANDSCAPE MONITORING AND REPORTING

### 6.1 Monitoring

"The high value of the escarpment as a visual backdrop ensures that proposals are required to minimise or avoid visual impacts on the escarpment" (Wollongong City Council, 2015 Illawarra Escarpment Strategic Management Plan 2015, (p.61).

The Wollongong DCP 2009, Part B – Land Use Based Controls, Chapter B6: Development in the Illawarra Escarpment states in section 2, Objectives "Ensure development is designed to minimise any potential visual impact upon the escarpment, when viewed from key vantage points throughout the LGA".

The recommended visual mitigation controls are outlined in Section 3.2.2.3 Visual Mitigation Measures of the *Russell Vale Colliery Revised Underground Expansion Project*, Submission Report – Part A (Final) by Umwelt, November 2019.

**Table 8** summarises the program to monitor and report on the environmental performance of the proposed mitigation measures including, visual bunding, screen planting, lighting, noise walls and building treatment.

If any deficiencies are observed, they will be recorded on the appropriate checklist form with relevant actions identified and managed in accordance with the EMS.

Records will include the nature of the deficiency, any actions required, the person responsible and an implementation priority. The completion of the actions will be monitored to ensure they are implemented within specified timeframes.



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

**Table 8 – Landscape and Lighting Monitoring and Reporting**

Monitoring and Reporting	Remedial Action	Monitoring and reporting program
<b>Visual Bunding</b>		
<b>Visual Inspection on site to identify:</b>		
Damage and erosion	<ul style="list-style-type: none"> <li>Trace back onsite conditions or mining operations that may have contributed to the existing erosion.</li> <li>Implement new operation methods to minimise or eliminate practices detrimental to visual bunding.</li> </ul>	Opportunistically / Monthly inspection with recommendations and improvements reported in Annual Review
Damage that may affect structural integrity and stability of bunding	<ul style="list-style-type: none"> <li>Engage an engineer to inspect and report on suitable rectification or remedial works.</li> <li>Carry-out rectification or remedial work as recommended.</li> </ul>	Quarterly with recommendations and improvements reported in Annual Review
Potential environmental or operational impacts that may affect the bunding.	<ul style="list-style-type: none"> <li>Develop and implement site planning strategies to minimise environmental or operational processes impacting the visual bunding.</li> </ul>	Quarterly with recommendations and improvements reported in Annual Review



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

Monitoring and Reporting	Remedial Action	Monitoring and reporting program
<b>Screen Planting</b>		
<b>Visual Inspection on site to monitor:</b>		
Insect and disease	<ul style="list-style-type: none"> <li>Period of treatment: Until the problem has been eliminated.</li> <li>Chemical spray: Apply in accordance with manufacturers label and Pesticide Act.</li> </ul>	Quarterly with results reported in Annual Review
Stakes and ties	<ul style="list-style-type: none"> <li>Removal: If plants are robust with well-developed systems and no longer require support, remove stakes and ties.</li> </ul>	At end of first full growing season
Weeding	<ul style="list-style-type: none"> <li>General Requirement: Remove unwanted broadleaf plants and grasses considered invasive to the locality.</li> <li>Vigorous ground covers: keep 200mm clear from the base of any shrub or tree. Remove as follows: Small areas – by hand and large areas – Proprietary herbicides.</li> <li>Herbicide application to be applied as follows: To the manufacturer's instructions and Safety Data Sheets (SDS), when the weather is humid with moderate temperatures and maximum sunlight, when the ground has recommended soil moisture, and avoid windy days or if rain is likely to follow within 12 hours.</li> </ul>	Quarterly with results reported in Annual Review
<b>Visual Inspection from the nominated viewpoints in section 6.5 'Sensitive Views' to identify effectiveness of:</b>		
Screen planting at screening mining infrastructure and mining operations (including noise walls and buildings).	<ul style="list-style-type: none"> <li>Identify areas where screening is limited or not effective and produce a planting plan / strategy for additional supplementary planting.</li> </ul>	Quarterly with results and improvements reported in Annual Review





Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

Monitoring and Reporting	Remedial Action	Monitoring and reporting program
<b>Noise Walls &amp; New Cladding</b>		
<b>Visual Inspection on site to identify:</b>		
Required general maintenance	<ul style="list-style-type: none"> <li>Identify areas of structures that require general maintenance such as cleaning, painting or repair.</li> <li>Carry-out remedial cosmetic repair and painting as required to match the original materials and finishes nominated.</li> </ul>	Quarterly
Damage	<ul style="list-style-type: none"> <li>Identify damage to structures that may affect their Structural integrity and are a risk to people's safety.</li> <li>Engage an engineer to inspect and report on suitable rectification or remedial works.</li> <li>Carry-out rectification or remedial work as recommended. Match the original materials and finishes nominated.</li> </ul>	Opportunistically / when damage occurs
<b>Visual Inspection from the nominated viewpoints in section 6.5 Sensitive Views to identify impacts of lighting to:</b>		
Nominated materials and finishes to noise walls and buildings at blending as far as possible with the surrounding landscape.	<ul style="list-style-type: none"> <li>Identify issues arising that are impacting the effectiveness of the noise walls and building that affect their ability to no longer blend as far as possible with the surrounding landscape.</li> </ul>	Annually with recommendations and improvements reported in Annual Review



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

Monitoring and Reporting	Remedial Action	Monitoring and reporting program
Lighting		
<b>Visual Inspection on site to identify:</b>		
Initial Lighting Audit	<ul style="list-style-type: none"> <li>Audit the existing lighting at RVC against Australian Standard AS4282.</li> <li>Develop a Corrective Action Plan (CAP) to rectify any non-conformances with the standard.</li> </ul>	<p>Audit within 3 months of this VIMP being approved by the secretary.</p> <p>Implement any corrective actions within 3 months of the CAP being developed.</p>
Required general maintenance and adjustment	<ul style="list-style-type: none"> <li>Identify lighting that require general maintenance such as cleaning, or repair.</li> <li>Identify lighting that requires adjustment to improve illumination of mining operation.</li> <li>Review lighting impacts to off-site neighbouring areas following required adjustments.</li> </ul>	Monthly internal inspections and/or on receipt of complaint
Annual maintenance and adjustment	<ul style="list-style-type: none"> <li>Engage an engineer to inspect and report on improvements or adjustments to existing lighting.</li> </ul>	Annual external audit with recommendations and improvements reported in Annual Review
Additional lighting requirements	<ul style="list-style-type: none"> <li>Engage a consultant/engineer to identify and design suitable locations for proposed lighting.</li> </ul>	As required



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

Monitoring and Reporting	Remedial Action	Monitoring and reporting program
<b>Visual Inspection from the nominated viewpoints in Section 5.4 Viewpoints to identify impacts of lighting to:</b>		
Off-site, boundaries and neighbouring areas	<ul style="list-style-type: none"> <li>Identify areas where lighting impacts effect off-site areas.</li> <li>Identify lighting impacts caused by the adjustment of lighting.</li> <li>Adjust lighting onsite to minimise or remove lighting impacts.</li> <li>Vehicle lighting impacts – limit use of high beam through regular training of operators.</li> </ul>	<p>When adjustments to lighting occur</p> <p>Training records</p> <p>Monthly during internal inspection</p> <p>Annually during external audit</p> <p>On receipt of complaint</p>

## 6.2 Incident and non-compliance reporting

The Development Consent defines:

- an 'incident' to be "an occurrence or a set of circumstances that causes or threatens to cause material harm and which may or nor cause a non-compliance"; and
- 'non-compliance as "an occurrence, set of circumstances or development that is a breach of this consent".

Incidents and non-compliance will be managed through established WCL procedures as detailed in the EMS (Wollongong Coal 2021a).

Where an exceedance of criteria of performance measures occurs, remedial measures will be reported in accordance with Condition F4.

### 6.2.1 Incidents

Once notified of an incident, the Control Room Operator (CRO) is to mobilise internal and external expertise and resources. Where an incident represents an immediate threat to human health or property, the first point of contact should be the Emergency response hotline on 000.

If the incident does not require an initial combat agency, or once 000 has been called, in accordance with the EPA notification protocol, the relevant individual responsible for activating the Pollution Incident Response Management Plan (PIRMP) needs to be notified.

In accordance with Conditions F9 of the Consent, WCL will immediately notify DPIE and the EPA (e.g. EPA Environment Line Service on 131 555) of any incident that has caused or has the potential to cause significant risk of material harm to the environment. The notification will identify the development (including the development application number and name) and set out the location and nature of the incident.

A detailed report of the incident shall be provided to the Secretary of DPIE and the EPA within 7 days of the incident occurring consistent with Condition F10 of the Consent.

### 6.2.2 Non-compliance

As required by Condition F10, WCL will notify DPIE and the EPA of any exceedance or non-compliance within 7 days of becoming aware of it. The notification will set out the condition of the consent that the project has exceeded or is non-compliant with, why it does not comply, the reasons for the exceedance or non-compliance (if known), and what actions have been, or will be, undertaken to address the exceedance or non-compliance and whether affected landowner(s) have been notified.

The notification will set out the condition of the consent that the project is non-compliant with, why it does not comply, the reasons for the non-compliance (if known), and what actions have been, or will be, undertaken to address the non-compliance.

## 6.3 Handling complaints

The EM is responsible for maintaining a system for recording and responding to complaints.

The Colliery will ensure the telephone number and email address in which environmental and pollution complaints can be made is easily accessible to the community, via both signage at the operation and advertised by the WCL website, in accordance with Condition F17.

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

Notifications of complaints received are to be provided as quickly as practicable to EM, or delegate.

Complaints and enquiries do not have to be received via the telephone line or email and may be received in any form. Any complaint or enquiry relating to environmental management or performance is to be relayed to the EM or delegate as soon as practical. All Colliery employees are responsible for ensuring the prompt relaying of complaints. All complaints will be recorded in the Colliery Complaints Register, in accordance with Condition F17.

For each complaint, the following information will be recorded in the complaints register:

- Date and time of complaint.
- Method by which the complaint was made.
- Personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect.
- Nature of complaint.
- The action(s) taken by the Colliery in relation to the complaint, including any follow-up contact with the complainant.
- If no action was taken by the Colliery and the reason why no action was taken.

The EM is responsible for ensuring that all complaints are appropriately investigated, actioned and that information is fed back to the complainant, unless requested to the contrary.

The record of a complaint will be updated monthly on WCL's website in accordance with Condition F17. A copy of the complaint will be kept for at least 4 years after the complaint is made and will be provided to relevant agencies upon request.

In accordance with Condition 10, an environmental incident complaint that has caused or has the potential to cause significant risk of material harm to the environment will be notified to DPIE and other relevant agencies within seven 7 days.

In accordance with Condition F17(a)(x) of the Consent, a Complaints Register will be made publicly available on the website and updated monthly. A summary of complaints received, and actions taken will be presented to the CCC as part of the operational performance review. A summary of complaints received, and actions taken will also be included in the Annual Review and the Annual Return.

## 6.4 Public sources of data

To assist the public and other stakeholders understand the impacts from the development, including monitoring results, newsletters and updates, and in accordance with Condition F5(i), WCL will:

- publish information on the company website;
- notify the local community through the Russell Vale CCC;
- contact individuals by direct notification (email subject to registration of interest) where relevant.

Information required to be published in accordance with Condition F17, such as CCC minutes, current statutory approvals and complaints register will also be included on the company website.

This information will be updated as required.



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

## 7 CONTINGENCY PLAN

### 7.1 Adaptive management

In accordance with Condition F4, where exceedances of criteria or performance measures has occurred, WCL will at the earliest opportunity:

- take all reasonable and feasible steps to ensure that the exceedance ceases and does not re-occur (i.e. contingency planning);
- consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action;
- within 14 days of the exceedance occurring, submit a report to the Secretary describing the remediation options and any preferred remediation measures or other course of action; and
- implement remediation measures as directed by the Planning Secretary.

### 7.2 Contingency plan

Condition F5(f) requires WCL to establish a contingency plan to manage any unpredicted impacts and their consequences, and to ensure that ongoing impacts reduce to levels below relevant performance measures or criteria as quickly as possible.

This takes the form of a contingency plan and provides a simple, transparent and useable reference for the management of aspects or issues at the Colliery, and the implementation of appropriate management measures.

The contingency plan is designed to summarise for key potential impacts or issues management and contingency actions. Table 9 outlines contingency measures that will be considered as part of audits to address potential impacts, associated consequences and opportunities to improve environmental performance of the development over time. The below contingency measures and performance improvements will be outlined in WCL's annual review and are linked back to the performance criteria and timing detailed in Table 5.

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

**Table 9 – Contingency Plan**

Potential Impacts	Contingency Measures	Responsibility	Timing
<b>Visual Bunding</b>			
Continual erosion to visual bunding and/or surrounding areas.	<ul style="list-style-type: none"> <li>Investigate, report and develop site planning strategies to minimise environmental or operational processes impacting the visual bunding.</li> <li>Investigate and trial alternative plant species to improve the stabilisation of bunding.</li> </ul>	<ul style="list-style-type: none"> <li>Environment Manager</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing inspections to monitor and manage erosion.</li> <li>Initial landscape planting within the first 6 months of operations.</li> <li>Ongoing trials of suitable plant species.</li> </ul>
<b>Screen Planting</b>			
Insufficient screening of mining infrastructure and mining operations (including noise walls and buildings) due to planting failure.	<ul style="list-style-type: none"> <li>Engage suitably qualified and experienced contractor / consultant to investigate, report on percentage of planting failure greater than the following acceptable failure rate and develop new supplementary planting strategy for new and existing screen planting zones to replace failed planting: <ul style="list-style-type: none"> <li>- 10% tube stock;</li> <li>- 10% 140mm pot or larger; and</li> <li>- 5% for tree and shrub planting.</li> </ul> </li> <li>Identify areas that require immediate screening and select, and plant mature advanced tree and shrub species, including additional cultivation, amelioration of landscape planting zones and bunding.</li> </ul>	<ul style="list-style-type: none"> <li>Environment Manager</li> <li>Suitably qualified contractor / consultant</li> </ul>	<ul style="list-style-type: none"> <li>Initial landscape planting within the first 6 months of operations.</li> <li>Ongoing inspections to monitor species and general landscaping success.</li> <li>Ongoing trials of suitable plant species.</li> </ul>



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

Noise Walls			
Continual damage, including structural from mining operations.	<ul style="list-style-type: none"> <li>Engage an engineer to inspect and report on suitable rectification or remedial works.</li> <li>Carry-out rectification or remedial work as recommended.</li> <li>Match the original materials and finishes nominated.</li> <li>Investigate and implement alternative planning and / or mining operational practices to minimise damage to noise walls.</li> </ul>	<ul style="list-style-type: none"> <li>Environment Manager</li> <li>Suitably qualified engineer</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing inspections during mining operations.</li> <li>Remediation as required.</li> </ul>
Building Treatment			
Continual damage, including structural from mining operations.	<ul style="list-style-type: none"> <li>Engage an engineer to inspect and report on suitable rectification or remedial works.</li> <li>Carry-out rectification or remedial work as recommended.</li> <li>Match the original materials and finishes nominated.</li> <li>Investigate and implement alternative planning and / or mining operational practices to minimise damage to buildings.</li> </ul>	<ul style="list-style-type: none"> <li>Environment Manager</li> <li>Suitably qualified engineer</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing inspections during mining operations.</li> <li>Remediation as required.</li> </ul>



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

Lighting			
Complaints from neighbouring areas regarding adverse lighting impacts.	<ul style="list-style-type: none"> <li>Engage a lighting / environmental consultant to identify area/s of mining operation associated with complaints.</li> <li>Develop and implement alternative lighting strategy to remove lighting impacts to neighbouring areas whilst allowing for continuation for mining operations.</li> <li>Investigate the addition of supplementary screen planting of mature advanced tree and shrub species to help mitigate lighting impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Environment Manager</li> <li>Suitably qualified lighting / environmental consultant</li> </ul>	<ul style="list-style-type: none"> <li>Compliance testing within 6 months of commencement of operations then ongoing.</li> <li>Develop alternative lighting strategy if required.</li> </ul>

## 8 REVIEW AND IMPROVEMENT

### 8.1 Annual Review

In accordance with Condition F11, WCL will prepare an annual review of the environmental performance of the project. The timeframe and scope of the annual review are defined in Section 6.3 of the EMS.

The items that are directly relevant to this Management Plan include:

- a review of the effectiveness of visual and lighting monitoring results, inspections, audits and management measures;
- any complaints, non-compliance or incident which occurred in the previous calendar year, and what actions were (or are being) taken to rectify the non-compliance and avoid recurrence; and
- what measures will be implemented over the next calendar year to improve the environmental performance of the project. Determination of improvements and actions to be implemented will be based on recommendations and observations from internal and external audits and inspections, incidents and non-compliances, including lighting, landscaping and weed management.

In accordance with Condition F12, the annual review will be submitted to WCC, Wollondilly Shire Council (WSC) and made available to the CCC and any interested person upon request. In accordance with Condition F17, the Annual Review will be made publicly available on the company website.

### 8.2 Auditing

In accordance with Condition F13, an Independent Environmental Audit will be undertaken by a suitably qualified auditor and include experts in any field specified by the Secretary. The timeframe and scope of the audit is defined in Section 6.4 of the EMS.

In accordance with Condition F14, within three months of commencing an Independent Environmental Audit, or other timeframe agreed by the Planning Secretary, WCL will submit a copy of the audit report to the Planning Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. All recommendations will be implemented to the satisfaction of the Planning Secretary.

All conditions of consent that require the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the *Environmental Planning and Assessment Act 1979*.

The Independent Environmental Audit will be made publicly available on the company website.

### 8.3 Access to Information

WCL will make a copy of this Management Plan and any other information relevant to the development publicly available on its website as required by Condition F17 (Access to Information).





Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

## 8.4 Plan revision

In accordance with Condition F7, this WMP will be reviewed within three months of:

- the submission of an incident report under Condition F9;
- the submission of an annual review under Condition F11;
- the submission of an independent environmental audit under Condition F13; or
- the approval of any modification of the conditions of the development consent (unless the conditions require otherwise).

The suitability of existing strategies, plans and programs required under the development consent will be reviewed by WCL.

In accordance with Condition F8, if necessary, to either improve the environmental performance of the project, cater for a modification or comply with a direction, the strategies, plans and programs required under the Development Consent will be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document will be submitted to the Planning Secretary for approval within 6 weeks of the review.

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

## 9 REFERENCES

AILA, 2018, Guidance note for Landscape and visual assessment.

Australian Native Plants Society (Australia), Acacia – Background, viewed 16 February 2021.

Australian Standard AS4282:2019 – Control of the Obtrusive Effects of Outdoor Lighting.

<http://anpsa.org.au/acacia1.html>

Centre for Urban Design, 2020, Guidelines for landscape character and visual impact assessment. Environmental impact assessment practice note EIA-N04, Environmental Policy Planning and Assessment.

Dramsted, W E, Olson, J, D and Forman, R T T., 1996, Landscape Ecology Principles in Landscape Architecture and Land-Use Planning, Harvard University Graduate School of Design, Washington DC.

Forest Service, 1995, Landscape aesthetics. A handbook for scenery management. United States Department of Agriculture.

Invasive Plants and Animals Committee, 2016, Australian Weeds Strategy 2017 – 202. Australian Government Department of Agriculture and Water Resources, Canberra.

National Building Specification, 2020, 0251 Landscape – soils, NATSPEC, Australia.

National Building Specification, 2020, 0252 Landscape - natural grass surfaces, NATSPEC, Australia.

National Building Specification, 2020, 0253 Landscape - planting, NATSPEC, Australia.

National Building Specification, 2020, 0254 Irrigation, NATSPEC, Australia.

National Building Specification, 2020, 0256 Landscape - establishment, NATSPEC, Australia.

National Building Specification, 2020, 0259 Landscape - maintenance, NATSPEC, Australia.

NSW Government, Office of Environment & Heritage, Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion – profile, viewed 14 February 2021, <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10426>

NSW Government, Department of Planning, Industry and environment, Illawarra lowlands grassy woodland in the Sydney Basin Bioregion – endangered ecological community listing, viewed 14 February 2021. <https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/1996-1999/illawarra-lowlands-grassy-woodland-sydney-basin-bioregion-endangered-ecological-community-listing#:~:text=Characteristic%20tree%20species%20in%20the,Eucalyptus%20bosistoana%20and%20Melaleuca%20decora>

Umwelt, 2019, Russell Vale Colliery Revised Underground Expansion Project, Submission Report – Part A (Final).

Wollongong Development Control Plan 2009.

Wollongong Coal 2021, Russell Vale Colliery Environmental Management Strategy, RVC WC STD 001, Wollongong Coal Pty Limited.

## 10 GLOSSARY OF ABBREVIATIONS AND TERMS

Abbreviations	
DPIE	NSW Department of Planning, Industry and Environment
EMM	EMM Consulting Pty Limited
EM	Environment Manager
EMS	Environmental Management System
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
IPC	Independent Planning Commission of NSW
ML	Mining Lease
NSW	New South Wales
ROM	Run-of-mine
RPPR	Revised Preferred Project Report
SEPP	State Environmental Planning Policy
SER	Site Environment Representative
UEP	Underground Expansion Project
VIMP	Visual Impact Management Plan
WCC	Wollongong City Council
WSC	Wollondilly Shire Council
Wollongong Coal Pty Limited	WCL
Terms	
the Colliery	Russell Vale Colliery
the Planning Secretary	The Planning Secretary of the Department of Planning, Industry and Environment (DPIE)
the Project	the Revised Preferred Project
surface facility	Russell Vale Pit-Top Site, coal conveyors and truck load out facilities, ventilation shaft sites and any other site subject to proposed surface

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

	disturbance (excluding subsidence impacts) associated with the development
<b>Mining operations</b>	The carrying out of mining, including the extraction, processing, stockpiling and transportation of coal on the site and the associated removal, storage and/or emplacement of vegetation, topsoil, overburden and reject material
<b>exceedance or non-compliance</b>	<ul style="list-style-type: none"> <li>Any inspection/test result that does not meet the acceptance criteria specified in the development consent, EPL and /or other conditions of approval identified in the EMS;</li> <li>Any notice of non-compliance issued by the EPA; or</li> <li>Any other regulatory authority with environmental jurisdiction.</li> </ul>
<b>incident</b>	an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance
<b>material harm</b>	<p>Harm to the environment is material if:</p> <ul style="list-style-type: none"> <li>it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or</li> <li>it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000.</li> </ul>



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

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## APPENDIX A – AGENCY AND CCC CONSULTATION

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Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

## Richard Sheehan

**From:** Richard Sheehan  
**Sent:** Wednesday, 10 March 2021 2:21 PM  
**To:**  
**Cc:**

**Subject:** RE: Russell Vale CCC: - Visual Impact Management Plan for consultation

Good morning CCC members,

Further to the submission of the WCL Russell Vale Air Quality and Greenhouse Gas Management Plan to the CCC thank you all for your time and effort in providing the feedback.

As advised at the CCC we have in addition, a Visual Impact Management Plan for consultation. Due to the size of the document we have used a drop box link to circulate the document accessed via the link as below – however should this prove to be a problem please advise and I will work on an alternative.

[https://www.dropbox.com/s/c3nfw4zsv9ze2rd/210223\\_VIMP\\_Russell%20Vale%20Colliery\\_Report\\_Appendix.pdf?dl=0](https://www.dropbox.com/s/c3nfw4zsv9ze2rd/210223_VIMP_Russell%20Vale%20Colliery_Report_Appendix.pdf?dl=0)

At a later date there will also be a Social Impact Management Plan, for consultation with the CCC, which we will send out for consultation, however the timing on WCL providing a draft for consultation will be within 6 months of the commencement of the development in accordance with the Approval.

The period for consultation of the document and submission of any comments and feedback is two weeks from today being Wednesday 24/03/20.

Should any CCC member wish to take up the offer to run through the management plan up at the Russell Vale office please let me know and I will endeavor to find a mutually suitable time. Alternatively please contact me or Warwick directly with any specific questions via the email as below or on 02 4223 6800.

Regards

Richard Sheehan  
 Group Environmental & Approvals Manager



Wollongong Coal Limited  
 Russell Vale Colliery  
 7 Princes Highway, Corrimall NSW 2518  
 PO Box 281, Fairy Meadow NSW 2519  
 ☎ Mob: 0404 972 746  
 ✉ Email: [Richard.sheehan@wcl.net.au](mailto:Richard.sheehan@wcl.net.au)



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

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**Richard Sheehan**

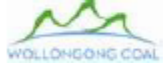
**From:** Richard Sheehan  
**Sent:** Thursday, 18 March 2021 4:34 PM  
**To:** 'David Ross - VUCA Strategist'  
**Subject:** RE: Russell Vale CCC: Commencement of construction works

Hi David,

Could you please send out a notice that we are closing the consultation for CCC on the Visual Management Plan on Monday. If there are any comments to be received please respond to my email or as was the case for some CCC members previously please give me a call to discuss. If I cant discuss at the time I will organise a mutually suitable time.

Regards

Richard Sheehan  
*Group Environmental & Approvals Manager*



Wollongong Coal Limited  
Russell Vale Colliery  
7 Princes Highway, Corrimal NSW 2518  
PO Box 281, Fairy Meadow NSW 2519  
☎ Mob: 0404 972 746  
✉ Email: [Richard.sheehan@wcl.net.au](mailto:Richard.sheehan@wcl.net.au)



Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

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**Richard Sheehan**

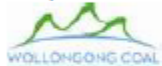
**From:** Richard Sheehan  
**Sent:** Friday, 26 March 2021 2:48 PM  
**To:**  
**Cc:**  
**Subject:** RE: Russell Vale Visual Management Plan Consultation

Thankyou David.

This email is to officially notify all that the period of consultation for the VIMP for the Russell Vale Colliery is complete and closed. No comments or requests for consultation were received.

Regards

Richard Sheehan  
Group Environmental & Approvals Manager



Wollongong Coal Limited  
Russell Vale Colliery  
7 Princes Highway, Corrimal NSW 2518  
PO Box 281, Fairy Meadow NSW 2519  
☎ Mob: 0404 972 746  
✉ Email: [Richard.sheehan@wcl.net.au](mailto:Richard.sheehan@wcl.net.au)

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**From:** David Ross - VUCA Strategist <[david.ross@phoenixstrategic.com.au](mailto:david.ross@phoenixstrategic.com.au)>  
**Sent:** Thursday, 18 March 2021 5:08 PM  
**To:**

**Cc:**

**Subject:** Russell Vale Visual Management Plan Consultation

Dear All

I hope that your week is going well.

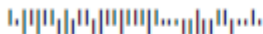
Richard has informed me that the consultation on the Visual Management Plan will close on Monday.

If there are any comments to be received please respond to his email or as was offered previously, please give him a call to discuss. If he can't discuss at the time, Richard has informed me that he will organise a mutually suitable time.

warm regards  
David

Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

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Mr R Sheehan  
Group Environmental & Approvals Manager  
Wollongong Coal Ltd  
PO Box 281  
FAIRY MEADOW NSW 2519

Our Ref:  
File:  
Date:

Z21/53618  
MP-2009/13  
16 March 2021

Dear Mr Sheehan

**DRAFT RUSSELL VALE COLLIERY VISUAL IMPACT MANAGEMENT PLAN**

Thank you for the opportunity to comment on the Draft Russell Vale Colliery Visual Impact Management Plan dated 23 February 2021.

Council notes that the plan has considered potential visual impacts of the proposed Russell Vale Colliery pit top works from sensitive viewpoints in the locality. This has resulted in the plan providing a landscaping strategy to shield public views of the pit top operation, through the provision of bund walls and tree and screen planting. The indicative plant species list which reflect the Illawarra Lowlands Grassy Woodlands Endangered Ecological Community in which the subject site fringes, is supported. Ongoing weed management for the subject site is also acknowledged and supported.

Council further notes that the plan will minimise off-site lighting impacts of the development upon the surrounding residential community by: (i) no fixed outdoor lights shining above the horizontal or above the building line or any illuminated structure (ii) minimal lighting and flood lighting aimed in the direction of site boundaries and (iii) Wollongong Coal investigating options to use timers / automatic sensors to reduce lighting when not required.

Should you have any enquiries or wish to discuss this matter further, please contact Mr Ron Zwicker, Special Projects and Planning Support Manager on telephone (02) 4227 7111 or via email [rzwicker@wollongong.nsw.gov.au](mailto:rzwicker@wollongong.nsw.gov.au)

This letter is authorised by

Mark Riordan  
Manager Development Assessment & Certification  
Wollongong City Council  
Telephone (02) 4227 7111

cc: Mr W Lidbury  
Chief Executive Officer  
Wollongong Coal Ltd  
PO Box 281  
FAIRY MEADOW NSW 2519





Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		

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## APPENDIX B – PHOTOGRAPHIC CALIBRATION

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Site	Russell Vale Colliery	DOC ID	RVC EC PLN 029
Type	Management Plan	Date Published	12/08/2021
Doc Title	VISUAL IMPACT MANAGEMENT PLAN		



Photo 1 - Bellambi Lane 1.8km to Escarpment



Photo 2 - Bellambi Lane 1.8km to Escarpment



Photo 3 - Bellambi Lane 1.2km to Escarpment



1 Colorbond  
Monument Matt  
CMYK 92 16 27 90



2 Colorbond  
Night Sky  
CMYK 75 85 40 100



3 Colorbond  
Mangrove  
CMYK 48 36 54 32



4 Colorbond  
Ironstone  
CMYK 97 20 05 80



5 Colorbond  
Basalt Matt  
CMYK 05 0 07 75



6 Colorbond  
Woodland Grey  
CMYK 45 55 42 67