Department of Planning and Environment

Our ref: (DA92/97-PA-79)

Mr Chris Lauritzen
General Manager – Resource Development
MACH Energy Australia Pty Ltd
Suite 1, Level 3, 426 King Street
Newcastle West, NSW, 2302

22/09/2023

Subject: Mount Pleasant Operation (DA 92/97) Visual Impact Management Plan

Dear Mr Lauritzen

I refer to the Visual Impact Management Plan submitted to the Department for review following completion of the Modification 4, in accordance with Condition 47, Schedule 3 of the Mt Pleasant Operation development consent (DA 92/97). I also acknowledge your response to the Department's review comments and request for additional information.

I note the Visual Impact Management Plan has been prepared in consultation with Muswellbrook Shire Council. The Department has carefully reviewed the Visual Impact Management Plan and is satisfied that it meets the requirements of the relevant conditions in DA 92/97.

Accordingly, as nominee of the Planning Secretary, I approve the Visual Impact Management Plan (revision 02, dated 31 August 2023).

You are reminded that if there are any inconsistencies between the Visual Impact Management Plan and the conditions of approval, the conditions prevail.

Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss this matter further, please contact Tegan Cole on 02 9895 6457 or via email at tegan.cole@planning.nsw.gov.au.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments
As nominee of the Planning Secretary

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MOUNT PLEASANT OPERATION

VISUAL IMPACT MANAGEMENT PLAN

Document ID:	MP001-0000-ENV-PLN-0011		
Company:	MACH Energy Australia Pty Ltd		
Effective Date:	31 August 2023	**Status:**	Final
Endorsed By:	Andrew Reid	**Revision Number:**	02

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1 INTRODUCTION

The Mount Pleasant Operation (MPO) is located in the Upper Hunter Valley of New South Wales (NSW), approximately 3 kilometres (km) north-west of Muswellbrook and approximately 50 km north-west of Singleton (Figure 1). The village of Aberdeen and locality of Kayuga are also located approximately 5 km north-northeast and 1 km north of the MPO boundary, respectively (Figure 1). The proponent of the MPO is MACH Energy Australia Pty Ltd (MACH Energy), which purchased the MPO from Coal & Allied Operations Pty Ltd (Coal & Allied) in 2016.

MACH Mount Pleasant Operations Pty Ltd is the manager of the MPO as agent for, and on behalf of, the unincorporated Mount Pleasant Joint Venture between MACH Energy Australia Pty Ltd (MACH Energy) (95 per cent [%] owner) and J.C.D. Australia Pty Ltd (5% owner). This Visual Impact Management Plan (VIMP) is implemented at the MPO by MACH Energy.

The initial development application for the MPO was made in 1997. This was supported by an Environmental Impact Statement (EIS) prepared by Environmental Resources Management (ERM) Mitchell McCotter (ERM Mitchell McCotter, 1997). On 22 December 1999, the then Minister for Urban Affairs and Planning granted Development Consent DA 92/97 to Coal & Allied. This allowed for the "Construction and operation of an open cut coal mine, coal preparation plant, transport and rail loading facilities and associated facilities" at the MPO. The consent allowed for operations 24 hours per day seven days per week and the extraction of 197 million tonnes (Mt) of run-of-mine (ROM) coal over a 21 year period, at a rate of up to 10.5 Mt of ROM coal per year.

The Mount Pleasant Project Modification (MOD 1) was submitted on 19 May 2010 with a supporting Environmental Assessment (EA) prepared by EMGA Mitchell McLennan (EMGA Mitchell McLennan, 2010). MOD 1 included the provision of an infrastructure envelope for siting the mine infrastructure, the provision of an optional conveyor/service corridor linking the MPO facilities with the Muswellbrook-Ulan Rail Line and modification of the existing Development Consent DA 92/97 boundaries to accommodate the optional conveyor/service corridor and minor administrative changes. MOD 1 was approved on 19 September 2011.

The MPO South Pit Haul Road Modification (MOD 2) was submitted on 30 January 2017 with a supporting EA prepared by MACH Energy (MACH Energy, 2017a). MOD 2 proposed to realign an internal haul road to enable more efficient access to the South Pit open cut, with no other material changes to the approved MPO. MOD 2 was approved on 29 March 2017.

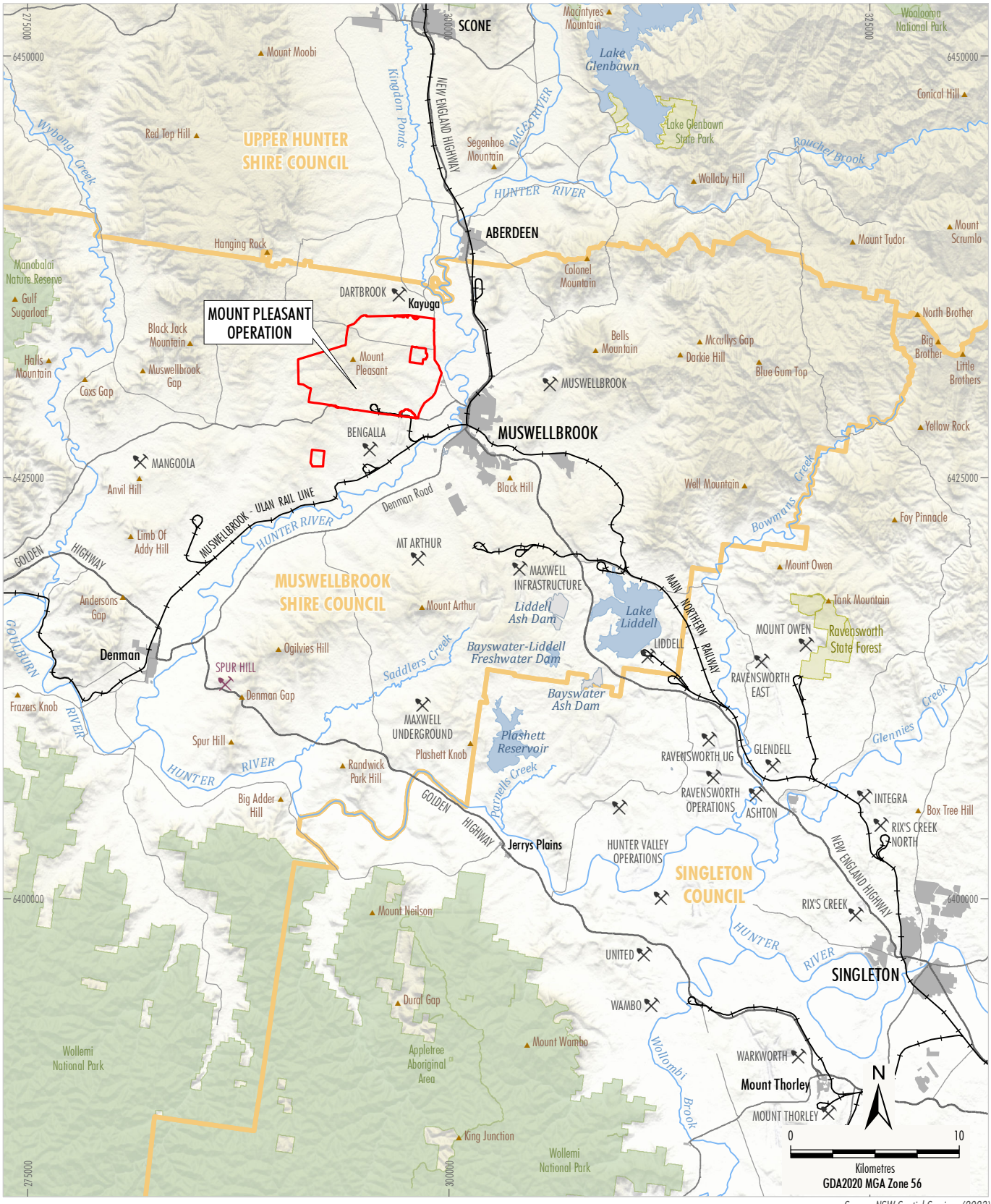
The MPO Mine Optimisation Modification (MOD 3) was submitted on 31 May 2017 with a supporting EA prepared by MACH Energy (MACH Energy, 2017b). MOD 3 comprised an extension to the time limit on mining operations (to 22 December 2026) and extensions to the South Pit Eastern Out of Pit Emplacement to facilitate development of an improved final landform. MOD 3 was approved on 24 August 2018.

The MPO Rail Modification (MOD 4) was submitted on 18 December 2017 with a supporting EA prepared by MACH Energy (MACH Energy, 2017c). MOD 4 proposed the following changes:

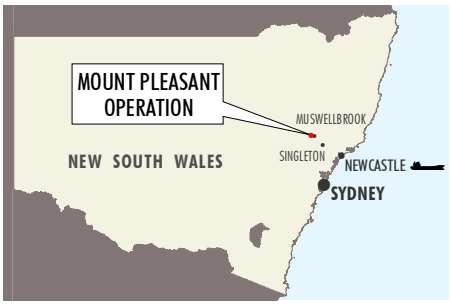
- duplication of the approved rail spur, rail loop, conveyor and rail load-out facility and associated services;
- duplication of the Hunter River water supply pump station, water pipeline and associated electricity supply that followed the original rail spur alignment; and
- demolition and removal of the redundant approved infrastructure within the extent of the Bengalla Mine, once the new rail, product loading and water supply infrastructure has been commissioned and is fully operational.

MOD 4 was approved on 16 November 2018 by the Secretary of the Department of Planning and Environment (under Delegation). Appendix 2 of the modified Development Consent DA 92/97 illustrates the Conceptual Project Layout Plan of the approved MPO at 2021 and 2025, Approved Surface Disturbance Plan and Conceptual Final Landform incorporating the MOD 4 infrastructure relocations.

Modification 5 (MOD 5) was submitted to rectify an administrative error in Development Consent DA 92/97 and was approved by DPE on 29 June 2022.



Source: NSW Spatial Services (2023)



LEGEND

- Mining Operation
- Proposed Mining Operation (Application Lodged)
- Railway
- Local Government Boundary
- State Forest/Reserve
- National Parks and Wildlife Estate
- Mining Lease Boundary (Mount Pleasant Operation)

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MOUNT PLEASANT OPERATION

Regional Location

Figure 1

MAC-18-03A MP2023_Figure 1_Rev B

1.1 PURPOSE AND SCOPE

This VIMP has been prepared by MACH Energy to satisfy the requirements under Development Consent DA 92/97 and specifically Condition 47, Schedule 3.

The VIMP applies to all employees and contractors at the MPO and covers all areas within the MPO boundary. The VIMP applies to the life of the MPO, including (but not limited to) the period of mining operations specified in Development Consent DA 92/97 (as modified), which currently permits mining until 22 December 2026. As required by Condition 5, Schedule 2 of Development Consent DA 92/97, the VIMP will continue to apply (excluding mining operations) beyond 22 December 2026, as required, until the rehabilitation and any additional undertakings (required by the Secretary of the NSW Department of Planning and the Environment [DPE], or the NSW Resources Regulator) have been carried out satisfactorily.

This VIMP has been prepared to manage visual impacts associated with construction and operation of the MPO, including for example, initial establishment and development, open cut mining, operation of the coal handling and preparation plant (CHPP), construction and operation of the rail spur/loop, construction and operation of the Fines Emplacement Area and rehabilitation.

The provisional general arrangement of the MPO at 2021 and 2025 (as per the Development Consent DA 92/97 [Appendix B]), showing the key mine components relevant to this VIMP, are shown on Figures 2 and 3 respectively. These plans have been used to guide the management measures in this VIMP.

1.1.1 Previous Versions

A initial version of the Landscape Management Plan (LMP) (Version 6) was prepared by Coal & Allied and was approved on 23 July 2012.

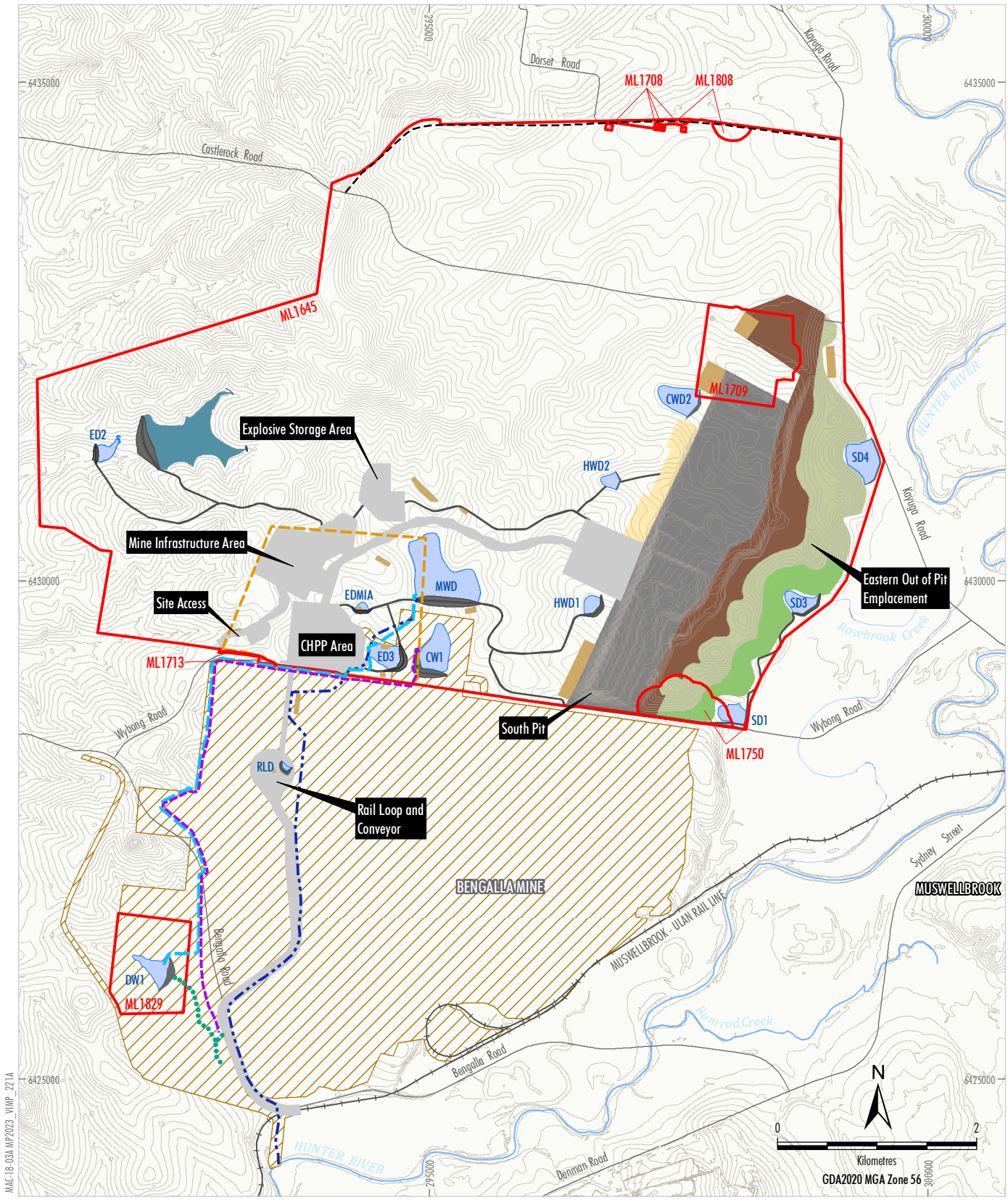
The previously approved version of the LMP was prepared by MACH Energy to provide a contemporary outline of MACH Energy's proposed visual treatment of the MPO, following the approval of MOD 3.

The VIMP was updated by MACH Energy in October 2019 (Version 1) to replace the previously approved version of the LMP following the approval of MOD 4, and to describe additional visual impact management measures proposed for the MOD 4 rail infrastructure.

1.1.2 Current Version

The current version of the VIMP (Version 2) has been prepared to include additional details regarding visual impact management measures relevant to MOD 4 rail infrastructure following completion of detailed design and approval of the Construction Environmental Management Plan.

As required by Condition 47, Schedule 3 of Development Consent DA 92/97, a draft version of this VIMP was submitted to the Muswellbrook Shire Council (MSC) for the purpose of consultation. Appendix A (available upon request) details the comments received by MSC on the draft VIMP dated 18 May 2022 and MACH's response dated 1 June 2022. Comments were made regarding visual screen monitoring, in-text references of the relevant sections/figures as well as the addition of indicative location of the train light screens in Figure 5 (Appendix A). MSC's suggested text and figure edits were made. No material changes were made in relation to visual screen monitoring as the monitoring proposed is consistent with contemporary examples for other visual screens across the Hunter Valley.



MAC-18-03A MP2023_VIMP_221A

LEGEND

- Mining Lease Boundary
- Bengalla Mine Approved Disturbance Boundary (SSD-5170)
- Infrastructure Area Envelope
- Active Stripping Area
- Active Mining Area
- Active Overburden Emplacement Area
- Topsoil Stockpile
- Initial Rehabilitation
- Established Rehabilitation
- Infrastructure and Borrow/Stockpile Area
- Access Road
- Northern Link Road

Indicative Water Pipeline Alignment

- MPO Hunter River Supply Pipeline
- MPO DW1 Pipeline (Bi-directional)
- Bengalla Mine CW1 Pipeline
- Approximate Extent of Scour Protection
- Water Dam
- Fines Emplacement Area

Source: MACH (2018, 2023); NSW Spatial Services (2023); NSW Division of Resources & Energy (2017)

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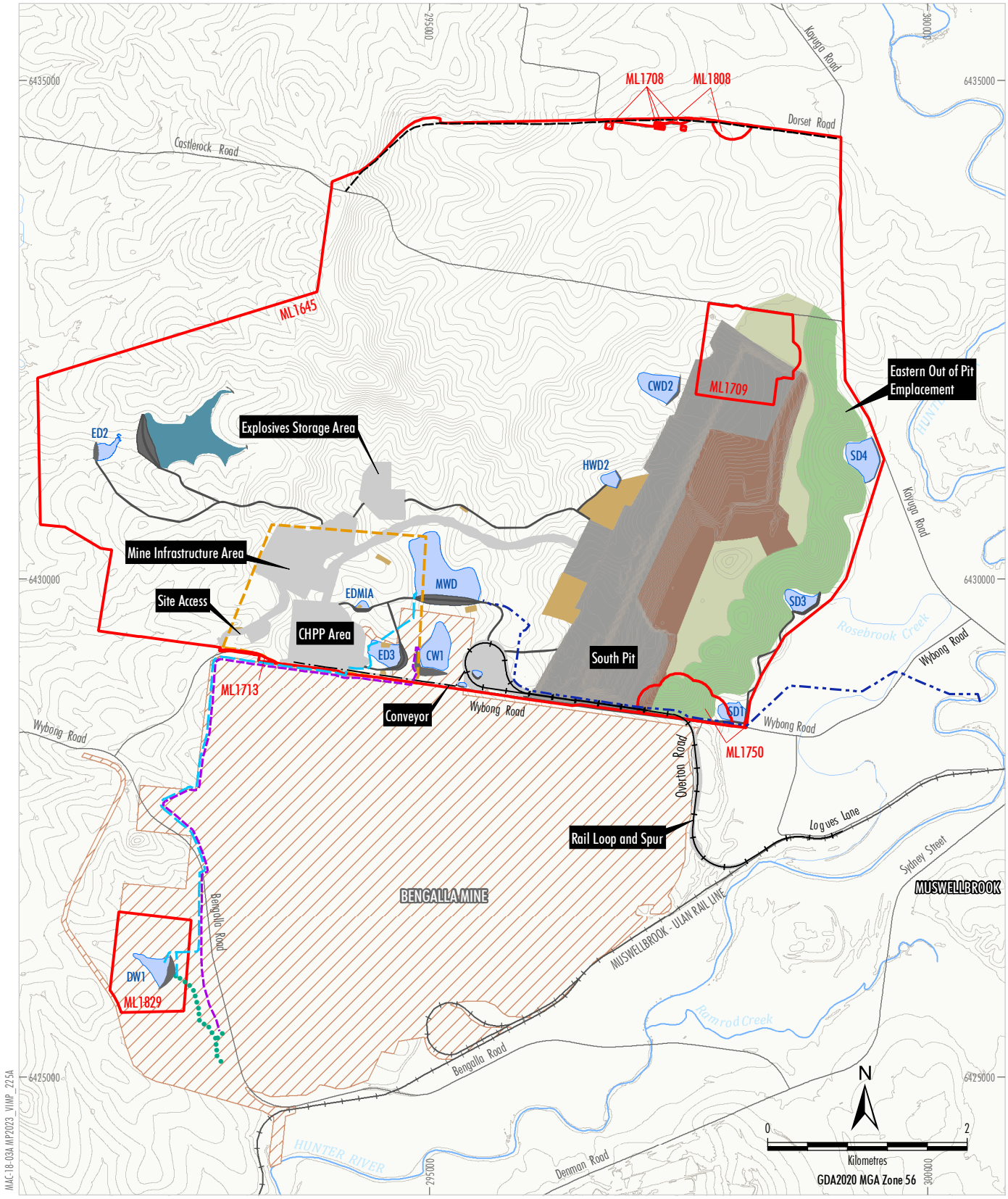
MOUNT PLEASANT OPERATION

Provisional General Arrangement 2021

Figure 2



MAC-18-03A MP2023_VIMP_225A

LEGEND

- Mining Lease Boundary
- Bengalla Mine Approved Disturbance Boundary (SSD-5170)
- Infrastructure Area Envelope
- Active Mining Area
- Active Overburden Emplacement Area
- Topsoil Stockpile
- Initial Rehabilitation
- Established Rehabilitation
- Infrastructure and Borrow/Stockpile Area
- Access Road
- Northern Link Road

Indicative Water Pipeline Alignment

- MPO Hunter River Supply Pipeline
- MPO DW1 Pipeline (Bi-directional)
- Bengalla Mine CW1 Pipeline
- Approximate Extent of Scour Protection
- Water Dam
- Fines Emplacement Area

Source: MACH (2018, 2023); NSW Spatial Services (2023); NSW Division of Resources & Energy (2017)

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MOUNT PLEASANT OPERATION

Provisional General Arrangement 2025

Figure 3

1.2 STRUCTURE OF THE VIMP

The remainder of the VIMP is structured as follows:

- Section 2: Outlines the statutory obligations relevant to this VIMP.
- Section 3: Summarises the existing visual environment of the MPO and the predicted visual impacts of mine operations.
- Section 4: Outlines the objectives and performance indicators relevant to this VIMP.
- Section 5: Describes the visual management measures proposed for the MPO.
- Section 6: Outlines the proposed landscape monitoring program.
- Section 7: Outlines the contingency plan for key risks to the visual amenity of the MPO.
- Section 8: Outlines the reviewing procedure for MPO documentation, including in particular for this VIMP.
- Section 9: Describes the reporting procedures proposed for the MPO.
- Section 10: Lists the references cited in this report.
- Appendix A: Lists comments received from the relevant consultees during the consultation period.
- Appendix B: Appendix 2 of Development Consent DA 92/97.

2 STATUTORY OBLIGATIONS

MACH Energy's statutory obligations relevant to landscape management are contained in the conditions of Development Consent DA 92/97 (as modified), as outlined in Section 2.1.

2.1 DEVELOPMENT CONSENT DA 92/97

The conditions of Development Consent DA 92/97 relevant to the content and structure of this VIMP are described in Sections 2.1.1 and 2.1.2.

2.1.1 VIMP Requirements

Conditions 45 to 47, Schedule 3 of Development Consent DA 92/97 outline the visual management required at the MPO, including the preparation of a VIMP (Table 1). Additionally, conditions related to the visual amenity of the MPO are contained in Appendix 3 of Development Consent DA 92/97 (Table 1).

Table 1
Visual Management Development Consent DA 92/97 Conditions

MPO Development Consent DA 92/97	Section where addressed in this VIMP document
Schedule 3 – Environmental Performance Conditions ***VISUAL*** *45. The Applicant must:* *(a) implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development;* *(b) ensure no outdoor lights shine above the horizontal; and* *(c) ensure that all external lighting associated with the development complies with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting or its latest version,* *to the satisfaction of the Secretary.*	Section 5.3
46. Upon receiving a written request from the owner of any residence on privately-owned land which has, or would have, significant direct view of the mining operations on site, the Applicant must implement visual mitigation measures (such as landscaping treatments or vegetation screens) on the land in consultation with the landowner. These measures must be reasonable and feasible, and directed toward minimising the visibility of the mining operations from the residence. *If within 3 months of receiving this request from the owner, the Applicant and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.* *Note: Except in exceptional circumstances, the Secretary will not require additional visual impact mitigation to be undertaken for residences that are more than 3 kilometres from the mining operations.*	Section 5.6
47. The Applicant must prepare a Visual Impact Management Plan to mitigate the visual impacts of the development to the satisfaction of the Secretary. This plan must: *(a) be prepared in consultation with Council, and submitted to the Secretary for approval by 30 June 2019, unless otherwise agreed by the Secretary;*	Section 1.1.2

Table 1 (Continued)
Visual Management Development Consent DA 92/97 Conditions

MPO Development Consent DA 92/97 Schedule 3	Section where addressed in this VIMP document
(b) provide for the establishment of trees and shrubs and/or the construction of mounding or bunding:	
• *along the access road to the mine site;*	Section 5.5.5
• *around the water storage dams and coal preparation plant;*	Sections 5.5.4 and 5.5.2
• *at other areas identified as necessary for the maintenance of satisfactory visual amenity;*	Section 5.5
(c) include details of the visual appearance of all buildings, structures, facilities or works (including paint colours and specifications), aimed at blending as far as possible with the surrounding landscape; and	Section 5.4
(d) include detailed measures to minimise the visual impacts of the MOD 4 rail infrastructure, including:	Sections 5.5.6, 6 and 8.2
• *details regarding any proposed light screens, earth bunds and screen planting; and*	
• *procedures to monitor and maintain the effectiveness of visual impact mitigation measures for the life of the development.*	
The Applicant must implement the management plan as approved by the Secretary.	
Appendix 3 - Statement of Commitments	
• *Visual amenity management will be undertaken in accordance with the development consent, which requires the preparation of a Visual Impact Management Plan.*	This VIMP
• *Lighting management will be undertaken in accordance with the development consent, including preparation of an engineering report regarding light emissions.*	Section 5.3
• *MACH Energy will inspect the condition of the vegetation visual screens described in the Visual Impact Management Plan on a quarterly basis, and maintain these vegetation visual screens to the satisfaction of the Secretary.*	Section 6

2.1.2 Management Plan (General) Requirements

Condition 2, Schedule 5 of Development Consent DA 92/97 outlines general management plan requirements. Table 2 presents these requirements and indicates where each is addressed within this VIMP.

Table 2
General Development Consent DA 92/97 Conditions

MPO Development Consent DA 92/97 Schedule 5	Section where addressed in this VIMP document
2. The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:	
(a) detailed baseline data;	Section 3
(b) a description of:	
• *the relevant statutory requirements (including any relevant consent, licence or lease conditions);*	Section 2
• *any relevant limits or performance measures/criteria;*	Section 4
• *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;*	Section 4
(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	Section 5
(d) a program to monitor and report on the:	Sections 6 and 8
• *impacts and environmental performance of the development;*	
• *effectiveness of any management measures (see c above);*	
(e) a contingency plan to manage any unpredicted impacts and their consequences;	Section 7
(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 8
(g) a protocol for managing and reporting any:	Section 9
• *incidents;*	
• *complaints;*	
• *non-compliances with statutory requirements; and*	
• *exceedances of the impact assessment criteria and/or performance criteria; and*	
(h) a protocol for periodic review of the plan.	Section 8
Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.	

3 VISUAL ENVIRONMENT

The visual environment of the MPO and surrounds was described in detail in the MPO EIS (ERM Mitchell McCotter, 1997), the MPO MOD 1 EA (EMGA Mitchell McLennan, 2010) and the MPO MOD 3 EA (MACH Energy, 2017b). The local regional environment surrounding the MPO is dominated by existing mining activities with agricultural and pastoral land uses, and areas of remnant woodland. The township of Muswellbrook is located to the south-east of the MPO site. The landscape within the MPO site is surmounted by the peak of Mount Pleasant at an elevation of approximately 360 metres (m) Australian Height Datum (AHD) and the radiating drainage lines from this peak have formed a series of well modulated ridges.

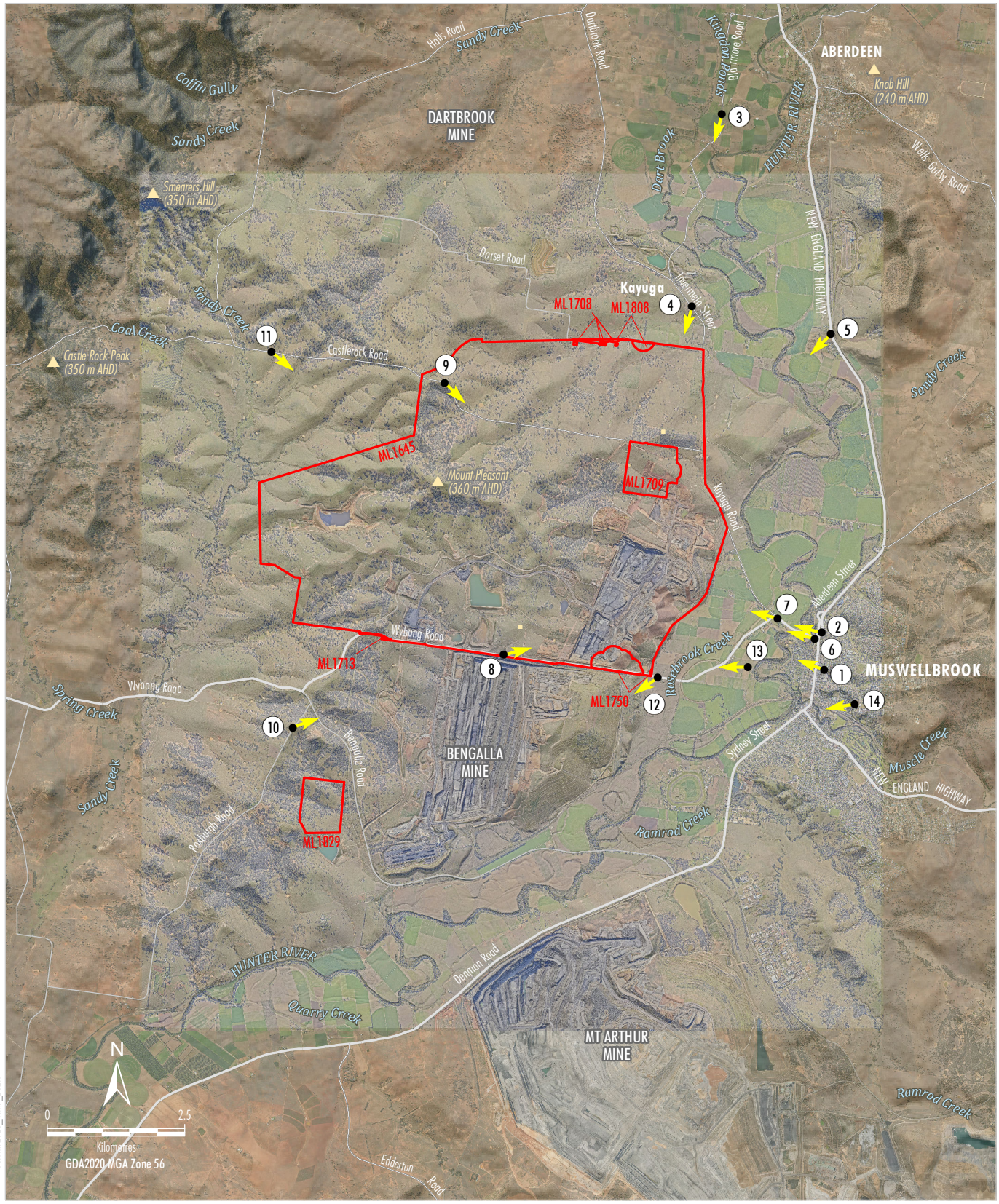
The predicted visual disturbance footprint associated with the MPO is described in Section 3.3.

Representative viewpoints identified in past visual assessments for the MPO have been considered in relation to the predicted visual disturbance of the MPO (Section 3.3). These representative viewpoints are shown on Figure 4 and include:

- Muswellbrook to the south-east (Viewpoints 1 and 2);
- Aberdeen to the north (Viewpoint 3);
- Dorset Road and the town of Kayuga to the north (Viewpoint 4);
- the New England Highway to the east (Viewpoint 5);
- the Main Northern Railway to the east (Viewpoint 6);
- Kayuga Road and the Hunter River Floodplain to the east (Viewpoint 7);
- Wybong Road to the south (Viewpoint 8);
- Castlerock Road to the north (Viewpoint 9);
- Roxburgh Road to the south (Viewpoint 10);
- properties located to the west of the MPO (Viewpoint 11);
- Wybong Road to the south-east (Viewpoint 12);
- Hunter River floodplain to the east (Horne residence) (Viewpoint 13); and
- Muswellbrook to the east (Viewpoint 14).

Due to the neighbouring Bengalla Mine immediately to the south, the Mt Arthur Coal Mine approximately 6 km further to the south of the MPO, as well as other intervening topography, views of the MPO current and proposed disturbance footprint are obscured from southerly viewpoints. This is with the exception of Wybong Road which runs along the southern and south-eastern boundary of the MPO, permitting views of the southern extent of the South Pit open cut area and the Mine Infrastructure Area (MIA) (Figures 2 and 3).

The ridgeline associated with Mount Pleasant (the main ridgeline) located in the north-west of ML 1645 (Figure 4), which has a maximum elevation of approximately 360 m AHD, provides a screen for views of the proposed mine landforms from the western viewpoints. In addition, the MPO disturbance footprint would not be visible from the towns of Aberdeen and Kayuga due to an intervening vegetated ridgeline (230 m AHD) and the lower elevations of these respective towns (Figure 4).



Source: MACH (2023); NSW Spatial Services (2023)
Orthophoto: MACH (Dec 2022, 2020)

LEGEND

Mining Lease Boundary (Mount Pleasant Operation)

Viewpoint Location

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MOUNT PLEASANT OPERATION

Representative Viewpoints

Figure 4

3.1 SENSITIVE VIEWPOINTS

In consideration of the visual environment outlined above and for the purpose of this VIMP, the key sensitive viewpoints of MPO disturbance (Section 3.3) are:

- Muswellbrook to the south-east (Viewpoints 1 and 2);
- the New England Highway to the east (Viewpoint 5);
- the Main Northern Railway to the east (Viewpoint 6);
- Kayuga Road and the Hunter River Floodplain to the east (Viewpoint 7);
- Wybong Road to the south (Viewpoint 8);
- Wybong Road to the south-east (Viewpoint 12);
- Hunter River floodplain to the east (Horne residence) (Viewpoint 13); and
- Muswellbrook to the east (Viewpoint 14).

3.2 EXISTING TREATMENT

Since the commencement of operations on-site in 2003, visual landscaping has progressively been undertaken. This landscaping was initiated by the previous owners of the MPO and has been subsequently continued by MACH Energy. The existing landscape treatment which has occurred to date is presented on Figure 5 and includes:

- tree screen planting along key roads with views of the MPO such as Kayuga Road and Dorset Road (Plates 1 - 4);
- screen planting along MPO controlled land east of the site and west of Kayuga Road;
- screen planting along MPO controlled land immediately east of the Eastern Out of Pit Emplacement and within ML 1645;
- construction of buildings within the MIA which have been subject to visual treatment (Section 5.4) (Plates 5 and 6);
- implementation of visual bunding/screen planting along Wybong Road on the southern edge of the MPO (Plate 7); and
- targeted replanting of previously planted tree screening areas.

Plate 1: Dorset Road (near intersection with Kayuga Road) looking west.

Plate 2: Kayuga Road (near intersection with Castlerock Road) looking north.

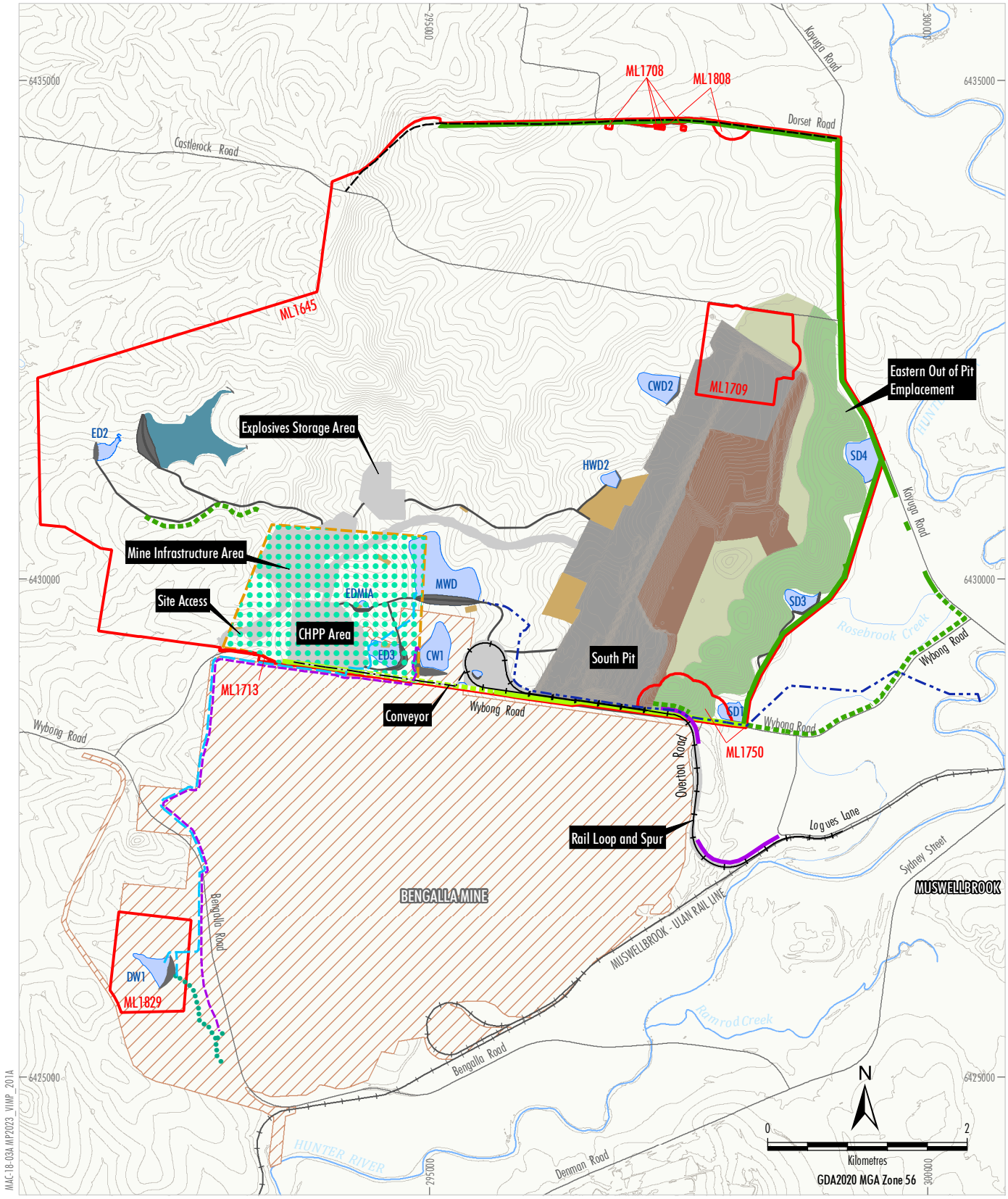
Plate 3: Kayuga Road (near Collins Lane) looking north.

Plate 4: Kayuga Road (between Collins Lane and Castlerock Road) looking south.

Plate 5: Workshop within the Mine Infrastructure Area.

Plate 6: Workshop and associated buildings within the Mine Infrastructure Area.

Plate 7: Visual bunding/screen planting along Wybong Road.



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LEGEND

- Mining Lease Boundary
- Bengalla Mine Approved Disturbance Boundary (SSD-5170)
- Infrastructure Area Envelope
- Active Mining Area
- Active Overburden Emplacement Area
- Topsoil Stockpile
- Initial Rehabilitation
- Established Rehabilitation
- Infrastructure and Borrow/Stockpile Area
- Access Road
- Northern Link Road

Indicative Water Pipeline Alignment

- MPO Hunter River Supply Pipeline
- MPO DW1 Pipeline (Bi-directional)
- Bengalla Mine CW1 Pipeline
- Approximate Extent of Scour Protection
- Water Dam
- Fines Emplacement Area

Landscape Plan

- Interspersed Screen *
- Existing Screen Planting
- Proposed Screen Planting
- Existing Bund/Screen Planting
- Proposed Bund/Screen Planting
- Existing Light Screen Location

* The Mine Infrastructure Area will be interspersed with additional tree plantings and will be constructed with a view to retain existing stands of trees for shielding purposes.

Source: MACH (2018, 2023); NSW Spatial Services (2023)

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MOUNT PLEASANT OPERATION

Landscape Plan

Figure 5

3.3 VISUAL IMPACTS

The potential visual impacts from the proposed operations of the MPO are detailed in the MPO EIS (ERM Mitchell McCotter, 1997), MOD 1 EA (EMGA Mitchell McLennan, 2010), MOD 3 EA (MACH Energy, 2017b) and MOD 4 EA (MACH Energy, 2017c). The MPO will result in a number of changes to the existing landscape (Figures 2 and 3), including:

- progressive excavation of open cut pits;
- establishment of a MIA, including CHPP, workshop and administration buildings;
- implementation of a rail loop and train load out facilities in the southern extent of the MPO area;
- construction of a Fines Emplacement Area;
- establishment of an overburden emplacement/visual bund on the eastern extent of the mining area using overburden from the open cut pits;
- construction of a number of mine water dams and sedimentation dams;
- establishment of a mine access road and various mine haul roads; and
- relocation and operation of the rail spur and rail loop.

The proposed management measures to mitigate the visual impact of the above mine areas are detailed in Section 5.5.

4 OBJECTIVES AND PERFORMANCE CRITERIA

The objectives of this VIMP are to:

- comply with the conditions of Development Consent DA 92/97 which relate to visual management (Table 1);
- manage the visual impacts of the MPO to comply with performance criteria (Table 3);
- ensure that MPO's management measures undertaken (Section 5) are consistent with the works outlined in the Rehabilitation Strategy; and
- modify management actions (if required) following the review of monitoring results against performance criteria, to ensure the objectives continue to be met over the life of the MPO.

The performance criteria for visual management of the MPO are presented in Table 3 below.

Table 3
Performance Criteria

Parameter	Target	KPI
Visual Bunding	Bunding provides sufficient visual screening from sensitive viewpoints.	Visual bunding installed (Figure 5) to assist screening of mine components from sensitive viewpoints (Figure 4).
Screen Planting	Plantings provide sufficient visual screening from sensitive viewpoints.	Screen plantings installed at sufficient density (Section 5.1) to assist screening of mine components from sensitive viewpoints (Figure 4).
Lighting Screens	Screens provide sufficient light screening from sensitive viewpoints.	Lighting screens installed (Figure 5) to minimise direct train lighting impacts from sensitive viewpoints (Figure 4).
Building Treatments	Key infrastructure would blend as far as practicable with the surrounding landscape.	Mine infrastructure is built as per designs which prioritise minimising visual impacts.
Lighting	Minimise lighting emissions as far as practicable from the MPO.	Designing and constructing lighting to minimise off-site impacts (Section 5.3) and in compliance with Australian Standard (AS) 4282 (INT) *1997 – Control of Obtrusive Effects of Outdoor Lighting*.

A monitoring program to comply with the objectives and performance indicators proposed above is outlined in Section 6.

5 MANAGEMENT MEASURES

The visual impacts of the construction works, infrastructure and mining operations described in Section 3.3, will be mitigated through visual and landscape treatments in the form of screen planting, bunding, fencing, and light screens at strategic locations within and surrounding the MPO area. These landscape treatments will be designed to integrate with MPO's Rehabilitation Strategy to provide additional ecological benefits where possible and assist to minimise wind, dust, and noise emissions from the MPO.

Existing and proposed landscape treatments, in the form of screen planting and visual bunding, are presented on Figure 5, in conjunction with the provisional general arrangement of the MPO at 2025.

The implementation of the remaining proposed landscape treatments will occur progressively prior to mining operations ceasing at the end of the mine life. Landscape treatments and associated activities which have occurred during each calendar year will be summarised in the MPO Annual Review (Section 8).

5.1 SCREEN PLANTING

Screen planting will include a mix of trees and shrubs of varying heights and widths to provide adequate visual shielding. Native trees and shrubs will be primarily selected for planting, with an aim to ensure that the screening species are consistent with endemic species in the surrounding area. Suitable non-endemic species will also be utilised where appropriate. New screen planting areas will be planted at a minimum density (to provide adequate visual screening) based on the species used. A planting protocol for screened areas is provided in Section 5.1.2.

Based on native seed availability, supply, cost and suitability, flora species to be used in screening will also include those typical of the NSW listed *White Box Yellow Box Blakely's Red Gum Woodland* endangered ecological community. An indicative tree and shrub species list is provided in Table 4.

Areas of existing screen plantings are shown in Plates 1 - 4 and Plate 7.

Quarterly routine inspections and appropriate maintenance will be undertaken on vegetation screens in accordance with Section 6.

5.1.1 Weed Control

General weed control measures will be undertaken on screen planting areas and include:

- ensuring machinery hygiene protocols are implemented for all machinery working on/around the screening areas to control the spread of weeds;
- undertaking routine inspections of screen planting areas;
- ensuring maintenance staff (i.e. weed and land management contractors) are knowledgeable in the identification of weed species prevalent in the Upper Hunter area, especially for weed species identified as priority under the *Biosecurity Act, 2015* and for weeds of national significance under the *Australian Weeds Strategy 2017-2027* (Commonwealth of Australia, 2017);
- where monitoring identifies a potential invasive and priority weed species in screening areas, weed removal will be undertaken as soon as practicable by:
  - physical removal (i.e. cultivation, slashing or mulching); and/or
  - targeted chemical spraying using herbicides;

- where chemical spraying is utilised, consideration of appropriate measures to ensure the safety and effectiveness of spraying will be undertaken (i.e. approval of an appropriate contractor and chemicals, timing of application during active growth, as well as consideration of surrounding land uses and prevailing weather conditions to reduce spread).

Where weed removal has been undertaken, success will be assessed via visual inspections and follow up weed removal where necessary.

Table 4
Indicative Species List

Scientific Name	Common Name
Trees	
Allocasuarina luehmannii	Bulloak
Angophora floribunda	Rough-barked Apple
Brachychiton populneus ssp *populneus*	Kurrajong
Callistemon salignus	Willow Bottlebrush
Casuarina cunninghamiana	River Sheoak
Corymbia maculata	Spotted Gum
Eucalyptus albens	White Box
Eucalyptus blakelyi	Blakely's Red Gum
Eucalyptus camaldulensis	River Red Gum
Eucalyptus crebra	Narrow-leaved Ironbark
Eucalyptus dawsonii	Slaty Gum
Eucalyptus microcarpa	Western Grey Box
Eucalyptus moluccana	Grey Box
Eucalyptus melliodora	Yellow Box
Eucalyptus punctata	Grey Gum
Eucalyptus tereticornis	Forest Red Gum
Melaleuca bracteata	Black Tea-tree
Melaleuca linariifolia	Flax-leaved Paperbark
Melaleuca styphelioides	Prickly-leaved Tea Tree
Shrubs	
Acacia amblygona	Fan-leaf Wattle
Acacia decora	Western Silver Wattle
Acacia decurrens	Green Wattle
Acacia falcata	Sickle Wattle
Acacia filicifolia	Fern-leaved Wattle
Acacia implexa	Hickory Wattle
Acacia salicina	Cooba
Dodonaea viscosa	Sticky Hop-bush
Breynia oblongifolia	Coffee Bush
Lissanthe strigosa	Peach Heath
Exocarpos cupressiformis	Native Cherry
Bursaria spinosa	Native Blackthorn
Pultenaea cunninghamii	Spiny Bush-pea

Table 4 (Continued)
Indicative Species List

Scientific Name	Common Name
Grasses	
Aristida vagans	Threeawn Speargrass
Austrodanthonia fulva	Wallaby Grass
Cymbopogon refractus	Barbed Wire Grass
Dianella longifolia var. longifolia	Pale Flax-lily
Dichondra repens	Kidney Weed
Lomandra filiformis	Wattle Mat Rush
Lomandra multiflora	Many-flowered Mat-rush
Stipa spp.	Spear Grass
Themeda australis	Kangaroo Grass

5.1.2 Planting Protocol

General measures which will be undertaken during screen planting to improve planting survival rate and visual amenity include:

- Designing screen planting to include a mix of species at a range of mature heights in order to establish effective screening coverage (i.e. including a range of grasses, shrubs and tree species).
- Designing screen planting areas to incorporate multiple rows in succession (i.e. successive rows of grasses, shrubs and trees) to reduce noise, wind movement and visual impacts from the MPO.
- Implementing planting preparation where deemed appropriate (e.g. soil scarifying/ripping on areas of compacted soils).
- Preferentially undertaking screen plantings outside of winter months to improve survival rates.
- Limiting stock within screen planting areas to short term low impact grazing.
- Introducing nest boxes across areas of screen plantings to enhance the planting areas for use by endemic woodland birds.

The design/management of screen planting areas will also be informed by the *Hunter Bushland Resource Kit* (Hunter Catchment Management Trust, 2003) and *Where land meets water resource kit: a guide to riparian management in the Hunter Valley* (Hunter-Central Rivers Catchment Management Authority, 2007).

5.2 VISUAL BUNDS

Implementation of visual bunds was committed to in the MPO EIS (ERM Mitchell McCotter, 1997) and is stipulated in conditions of Development Consent DA 92/97. Bunds have generally been proposed in more sensitive areas where close views require immediate screening, or where the additional height will be needed to lift the vegetative screens (i.e. along Wybong Road which lies directly adjacent to the southern extent of the MPO area [Figure 5]).

Where necessary, screen planting will be implemented on bund structures (Figure 5) to consolidate the visual effect of the bunds. Screen planting will be undertaken on bund structures with an aim to achieve a groundcover of 70% or more, in order to reduce the likelihood of weed infestations. When screen planting along a visual bund, a layer of topsoil will be introduced and keyed in prior to seed planting, to assist vegetation establishment. An appropriate topsoil depth will be implemented along the bund, with an aim for topsoil depths above 100 millimetres (considering subsoil quality, topsoil availability, shape and erosion protection). Where topsoil is not readily available for use, an organic growth material or equivalent will be utilised.

Bunds will be formed using material from a number of sources (e.g. surplus material stockpiled during road construction, excess material from pre-clearance activities etc.). Bunds will be constructed with an aim to achieve batter slopes that are no steeper than 2.5:1 horizontal to vertical, in order to more effectively establish groundcover vegetation (with consideration given to space, access, infrastructure, height and erosion).

5.2.1 Bund Stabilisation

Routine inspections will be undertaken on visual bunds in accordance with Section 6. Where inspections identify areas of slope failure or uncontrolled erosion, maintenance works will be undertaken as soon as practicable, including:

- the addition of further material and consolidation of the bund;
- if the failure is identified to be due to water erosion, implementation of further drainage structures within the bund;
- removal of vegetation adjacent to the bund which may be compromising bund stability; and
- where continuous failure of the bund occurs, consulting with an appropriate specialist (e.g. rehabilitation specialist, geotechnical specialist or agronomist) to consider measures to repair the bund (e.g. reconfiguring the bund design, altering the bund material etc.).

Follow up inspections of the bund will be undertaken to ensure the success of re-stabilisation works.

5.3 LIGHTING

In accordance with Condition 45, Schedule 3 of Development Consent DA 92/97, all external lighting will be designed and constructed using all feasible measures to minimise the off-site lighting impacts of the MPO. This will include:

- development and implementation of lighting plans by the mining contractor;
- no outdoor lights shine above the horizontal;
- flood lighting directed towards mine workings and to avoid direct lighting towards site boundaries;
- the use of timers and/or automatic sensors to switch off lighting when it is not needed;
- limiting the use of high beam lighting for vehicles travelling along haul roads, especially when travelling within close proximity to mine boundaries/adjacent roads;
- adjusting mine lighting to reduce visual impacts if site lighting is observed to be affecting off-site areas, or if lighting complaints are received; and
- establishment of train lighting screens, visual bunds and screen planting, in accordance with MOD 4 EA (Figure 4.6, Appendix C), to minimise direct lighting impacts on the Muswellbrook township and mitigate potential safety impacts along Wybong Road.

Lighting at the MPO will continue to be designed to comply with AS 4282 (INT) *1997 – Control of Obtrusive Effects of Outdoor Lighting* or its latest version.

MACH Energy will prepare an engineering report regarding light emissions in conjunction with the construction of major infrastructure components in the CHPP. This lighting report will be used to further inform lighting management measures on-site, including those listed above.

Lighting impact mitigation measures relevant to MOD 4 rail infrastructure are further described in Section 5.5.6.

In addition to monitoring the light management measures, periodic lighting audits will be undertaken following modifications to plant or equipment, to measure their effectiveness.

5.4 BUILDING TREATMENT

All key/visually obtrusive buildings and structures (including ancillary infrastructure) within the MPO area will be designed to minimise their visual impacts on the surrounding environment through:

- the use of non-reflective and textured building materials to avoid glare;
- the use of colours that complement the surrounding landscape (i.e. primarily green and beige, unless high visibility colors have been deemed necessary for safety reasons); and
- maintaining all storage areas in an orderly condition and locating these areas as far as practicable from visually sensitive areas.

Construction of the workshop and associated buildings (incorporating the above visual treatments) has commenced in the MIA, as shown in Plates 5 and 6.

5.5 SPECIFIC VISUAL TREATMENT FOR MINE AREAS

5.5.1 Active Mining Area

Initially, overburden emplacements will be developed to the east of the open cut pits (Figures 2 and 3). Consistent with the Rehabilitation Strategy, Mining Operations Plan/Rehabilitation Management Plan and supporting Annual Rehabilitation Report and Forward Program[1] and as shown on Figures 2 and 3, progressive rehabilitation of the overburden emplacements will occur as areas become available for rehabilitation. During construction of the overburden emplacements, it will be progressively shaped to a naturalistic form and vegetated with endemic grasses and trees, characteristic of a woodland/grassland community.

As rehabilitation of the overburden emplacement progresses, it will act as an environmental bund, assisting to screen the open cut pits from the township of Muswellbrook, Wybong Road and Kayuga Road, the New England Highway, and the Main Northern Railway to the east (Figure 5). MACH Energy will prioritise construction of the lower batters of the overburden emplacements to final landform profile and the early revegetation of these batters to progressively minimise visual impacts at Muswellbrook and other viewpoints to the east.

In consultation with MSC, MACH Energy has developed design principles for the final landform as part of MOD 3, and in particular for the overburden emplacements, to minimise visual impacts from the east. These design principles will include:

[1] As of 1 August 2022, MPO operates under a Rehabilitation Management Plan along with the supporting Annual Rehabilitation Report and Forward Program which has replaced the Mining Operations Plan (1 July 2021 – 30 June 2023).

- The emplacement landform would be designed to look less “engineered” when viewed from Muswellbrook (i.e. incorporation of macro-relief to avoid simple blocky forms).
- Surface water drainage from the emplacement landform would incorporate micro-relief to increase drainage stability and avoid major engineered drop structures where practical.
- MACH Energy would progressively develop and revegetate the final landform, to reduce visual impacts in Muswellbrook and other local vantage points.

A conceptual final landform and further discussion on the specific macro and micro-relief proposed for the final landform are presented in the MOD 3 EA (MACH Energy, 2017b).

As vegetation of the overburden emplacements will take a number of years to establish, strategic localised screen plantings will continue to be implemented to the east of the MPO area, along Kayuga Road and Wybong Road (Figure 5). This screen planting will assist in shielding the Active Mining Area from the east during the rehabilitation establishment phase of the overburden emplacements.

As described in Section 3.2, a visual bund with tree and shrub screen planting has been established along a portion of the eastern extent of Wybong Road. This bund and screen planting will assist in shielding the Active Mining Area from Wybong Road, as well as from other areas to the south.

5.5.2 Mine Infrastructure Area

The MIA is located in the south-west corner of the MPO area (Figures 2 and 3) and includes the CHPP and associated coal stockpiles and conveyor system, workshops, administration buildings, employee facilities and internal mine access roads. The rail loading facility including a rail loop spur from the Muswellbrook – Ulan Rail Line is currently located on the southern side of Wybong Road (Figures 2) and will be relocated as part of MOD 4 (Figure 3).

The MIA has been constructed to minimise, as far as practical, the clearance of existing stands of trees and to utilise the existing topography as much as possible. As outlined in the MPO EIS (ERM Mitchell McCotter, 1997), planting of native trees will be interspersed throughout the MIA to improve the aesthetics of the area and enhance the surrounding environment (Figure 5). As construction and rehabilitation of the overburden emplacement progresses, the rehabilitated emplacements will assist in shielding the MIA from viewpoints to the east of the site, including Kayuga Road and Wybong Road, and the township of Muswellbrook.

The MIA is most visible from the south, positioned directly north of Wybong Road. The existing visual bund and screen plantings along Wybong Road currently assists in shielding proportions of the MIA from Wybong Road. As construction and mining progresses, the existing bund will be extended along the southern boundary of the MPO area, adjacent to Wybong Road. Screen plantings will be established along the bund, where necessary, to increase shielding of the MIA from Wybong Road (Figure 5).

Buildings within the MIA have been designed to minimise visual impacts, consistent with the treatments outlined in Section 5.4. As described in Section 5.4, construction of various buildings incorporating visual building treatments has been completed in the MIA, as shown on Plates 5 and 6.

5.5.3 Fines Emplacement Area

The Fines Emplacement Area is located to the north-west of the MIA (Figures 2 and 3). As outlined in the MPO EIS (ERM Mitchell McCotter, 1997), the area is located within a gully and will be largely screened from public viewpoints by the topography and existing remnant woodland vegetation.

Notwithstanding, visual screening is proposed from areas to the south via planting along the Fines Emplacement Area access road (Figure 5). This will consist of planting tree and shrub species. An indicative species list for screen planting is outlined in Table 4.

5.5.4 Water Storage Dams

Water storage dams on the site consist of mine water and sediment dams. As shown on Figures 2 and 3, the proposed water storage dams for the site are primarily situated in the south and east of the MPO area. The dams in the southern extent of the site will be shielded from viewpoints to the south through the proposed/existing visual bunding along Wybong Road, and to the east from the overburden emplacement/visual bund (Figure 5). The sedimentation dams situated on the eastern side of the overburden emplacement will be shielded from the east via the existing/proposed screen planting along Kayuga Road and Wybong Road (Figure 5).

5.5.5 Site Access/Haul Roads

The site access road is constructed in the southern extent of the site, linking the MIA with Wybong Road to the south. The mine access road is shielded by natural topography and will be visually enhanced by completing the visual bund proposed along the northern edge of Wybong Road (Figure 5).

The majority of the mine haul/access roads are located in close proximity to the MIA and open cut pits. Haul roads and other site access roads are most visible from the south at Wybong Road. Completing the proposed/existing visual bund and targeted screen plantings along Wybong Road will assist shielding these internal roads. As outlined in Section 5.5.3, the proposed screen plantings along a section of internal road to the Fines Emplacement Area, will shield viewpoints to the south (Figure 5).

5.5.6 Relocated Rail Infrastructure

As part of MOD 4, the rail spur, rail loop, train load-out facility and product conveyor has been relocated as shown on Figures 2 and 3. A portion of the north-east section of the relocated rail spur immediately east of the Bengalla Mine is below natural ground level.

Train lighting screens have been established to minimise direct train lighting impacts on the Muswellbrook township from the relocated rail infrastructure. The rail lighting screens have been constructed using metal posts and horizontal panels of light-coloured autoclaved aerated concrete (AAC).

Two ground level headlight screens have been established on the eastern side of the rail spur at the following locations (labelled as "*Existing Light Screen Location*" on Figure 5):

- where the rail spur turns south across Wybong Road; and
- where the rail spur turns east from Overton Road to the Muswellbrook – Ulan Rail Line and is elevated above natural ground level.

These ground level headlight screens were designed to be higher than the train headlight level (Plate 8) and consistent with the treatments outlined in Section 5.4.

MACH Energy have agreement from the Rail Service Provider for train headlights to be turned-off with only ditch/fog lights operating when travelling east towards Muswellbrook. Signage is also installed requesting locomotive headlights be dimmed to reduce light impacts when locomotives are exiting the site.

MACH Energy engaged EMM Consulting (EMM) in April 2022 to complete a review of rail light screening assessment. The assessment required EMM to verify that the design of the rail servicing MPO and as-built light screening minimised the potential for train headlights to impact residents of Muswellbrook. The EMM assessment report included a site visit which identified areas that may need tree planting to strengthen the screening ability. The recommendations included:

- tree planting along the rail and access road;
- tree planting north of the Wybong Road overpass; and
- tree planting west of the Wybong Road overpass.

In response to the recommendations additional screen planting to the ground level headlight screen immediately north of Wybong Road will be undertaken to assist with integration of the headlight screens over time. Supplementary screen planting at the following locations is also proposed to mitigate visual impacts associated with the relocated rail infrastructure:

- between the access road running along Wybong Road and the relocated rail spur; and
- to the west of the Wybong Road rail overpass and between the relocated rail spur and Wybong Road.

The screen plantings commenced in autumn 2022 and will be completed in spring 2023.

Overhead rail lighting screens considered as part of MOD 4 EA were reassessed to not be necessary following final detailed design of the rail (AECOM, 2020; EMM, 2022).

The site visit also identified a potential impact of the trains headlight indirectly impacting on Muswellbrook as the train descends toward the Wybong Road overpass. This potential impact was not addressed in the Visual Assessment by VPA Visual Planning and Assessment (2018) or in the assessments by AECOM (2020).

Recommendations for the indirect light included:

- verify duration of trains in that location with train operation plans;
- verify the intensity of the headlight spill within Muswellbrook;
  - visually verify how much light is visible from Muswellbrook during night operation; and
  - measure light during train operation at night.
- consult with MSC representatives to discuss the potential/real light visibility after site verification; and
- potentially require train operators to dim headlight while trains are on the spur rail.

MACH Energy will undertake another lighting audit within 6 months of approval of this VIMP. This audit will include:

- verification of train duration when descending towards the Wybong Road overpass;
- verification of intensity of the train headlight spill within Muswellbrook; and
- assessment of the need for train operators to dim headlights while trains are on the rail spur.

The lighting audit will be presented to MSC representatives for discussion within 3 months of receiving the final audit report or at an alternative time agreed with MSC. In the event the audit results require additional mitigation measures these will be discussed with MSC prior to being implemented by MPO.

MACH Energy will undertake light audits as required thereafter as described in Section 8.2 of this VIMP.

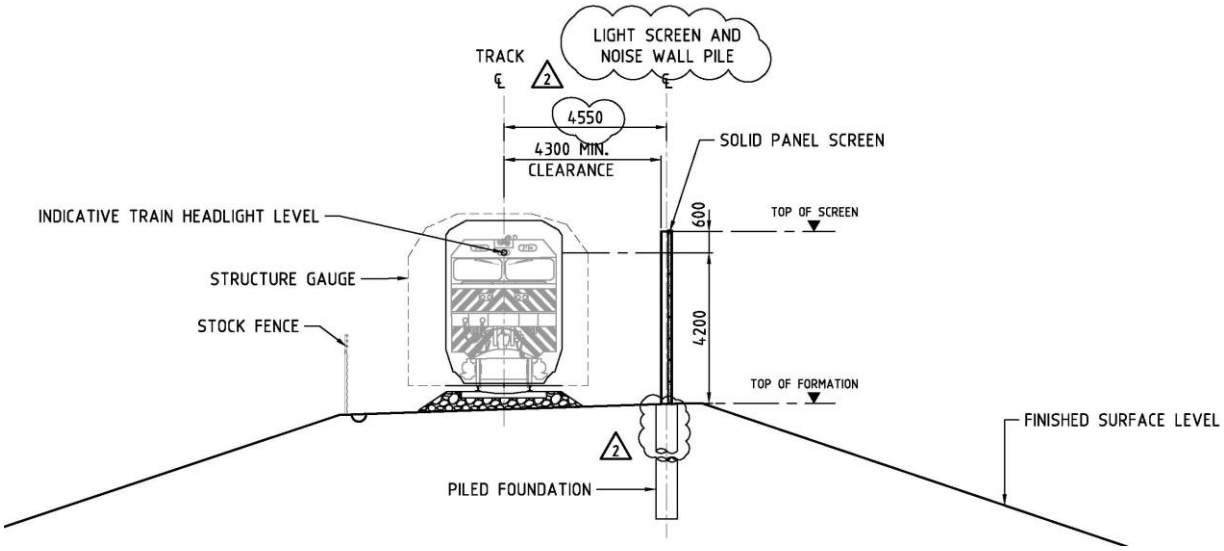

Plate 8: Ground level headlight screen design (AECOM, 2020).

Rehabilitation

MACH Energy will prioritise the rapid rehabilitation of disturbed areas (e.g. establishment of a cover crop on rail batters) to reduce visual contrast of these elements with the surrounding area.

Furthermore, additional native tree and shrub species will be established, between the ground level lighting screens and Muswellbrook to improve visual integration over time. This will be achieved with planting programs occurring in autumn and spring annually. Planting methods will include tube stock hand planting in targeted areas.

5.6 PRIVATELY OWNED LAND

In accordance with Condition 46, Schedule 3 of Development Consent DA 92/97, upon receiving a written request from the owner of any residence on privately-owned land which has, or would have, a significant direct view of the mining operations on-site[2], MACH Energy will implement visual mitigation measures (such as landscaping treatments or vegetation screens) on the privately-owned land in consultation with the landowner. These mitigation measures will be feasible and reasonable, with an aim toward minimising the visibility of mining operations from the residence.

Following consultation with the landowner, if within 3 months of receiving the request MACH Energy and the landowner cannot agree on measures to be implemented, or there is a dispute about the implementation of the measures, MACH Energy will refer the issue to the Secretary of the DPE for resolution.

[2] In accordance with Development Consent DA 92/97, except in exceptional circumstances this signifies residences within 3 km of the mining operations.

6 LANDSCAPE MONITORING

Routine inspections (i.e. at least annually, but also opportunistically and quarterly for vegetation screens) of the MPO landscape treatment areas will be undertaken to ensure that landscape treatments are consistent with the objectives of this VIMP and the performance indicators outlined in Table 3. The landscape monitoring program and proposed actions as a result of monitoring (where necessary) are outlined in Table 5.

Table 5
Landscape Monitoring Program

Parameter	Monitoring Proposed	Remedial Actions
Screen Planting	Routine visual inspection of screen planting areas (Figure 5) to ensure: • Tree/shrub species are in suitable condition and provide sufficient screening (through reviewing planting logs and monitoring survival rate). Routine inspections of screen planting will initially be undertaken at least quarterly, to highlight areas requiring attention during early growth stages (i.e. during the first year of growth). As screen planting becomes more established, inspections will be carried out on a quarterly basis.	• If monitoring indicates that tree/shrub species within screen planting areas have not been planted at a minimum density of 2000 stems/hectare (from planting logs) or have a survival rate lower than 50%, maintenance works (e.g. reseeding, watering and application of fertiliser where necessary) will be undertaken until adequate shielding is achieved. The maintenance works can include: – change of plant species; – replantation of tree/shrubs; – thinning; and – infill planting.
Visual Bunds	Routine visual inspection of visual bunds to ensure that bunds: • Are sufficiently stable and no uncontrolled erosion is occurring. • With tree screens have tree/shrub species which are in suitable condition (through measuring screen planting groundcover percentage). • With tree screens do not contain a prevalence of weed species (through measuring weed groundcover percentage).	• If monitoring indicates that slope failure or uncontrolled erosion has/will occur, stabilisation works will be undertaken (Section 5.2.1). • If monitoring indicates that groundcover of mature screen planting areas on visual bunds is less than 70%, maintenance works (e.g. reseeding, watering and application of fertiliser where necessary) will be undertaken until adequate shielding is achieved. • If monitoring indicates that weeds constitute 20% or greater of the groundcover in mature screen planting areas, weed control measures will be undertaken (Section 5.1.1).
Light Screens	Routine visual inspection of light screens to ensure all screens are kept in an orderly condition (i.e. metal posts and horizontal panels of AAC maintained in suitable condition, paint maintained etc.).	• If required, maintenance works will be undertaken on screens which are found to be in a poor condition and are deemed to be having a negative visual impact on the vicinity.
MIA	Routine visual inspection of the MIA to ensure that the interspersed tree plantings are in suitable condition, and the infrastructure area is consistent with mine plans.	• If required, maintenance works and reseeding will be undertaken on tree plantings interspersed within the MIA which are found to be in poor condition.
Site Infrastructure	Routine visual inspection of infrastructure areas to ensure all infrastructure is kept in an orderly condition (i.e. paint maintained, tidy work areas etc.).	• If required, maintenance works will be undertaken on infrastructure areas which are found to be in an unsuitable condition and are deemed to be having a negative visual impact on the vicinity.

The results of the monitoring program and any necessary maintenance works undertaken on the landscape treatment parameters will be presented in the relevant MPO Annual Review (Section 8.1).

7 CONTINGENCY PLAN

Key risks to the success of landscaping treatments and proposed contingency measures to mitigate these risks are outlined in Table 6.

Table 6
Contingency Plan

Risk	Contingency Measure
Inadequate weed control leading to widespread failure of screen plantings.	• Increase frequency of routine inspections and application of control measures. • Review weed control measures (Section 5.1.1) and consult with an appropriate rehabilitation specialist to introduce more appropriate control measures. • Replant tree and shrubs species as required to provide adequate shielding.
Adverse weather conditions (e.g. drought, bushfire, flooding etc.) leading to failure of tree screening species.	• Replant tree screening using species identified as adapted to local climatic conditions and more suited towards adverse weather events (e.g. *Eucalyptus crebra* [Narrow-leaved Ironbark], *Eucalyptus blakelyi* [Blakely's Red Gum] etc. [Table 4]).
Insufficient screening identified in screen planting areas.	• Additional screen planting, with a focus on introducing species to thicken established screen planting (i.e. further introduction of understorey species if screen planting does not adequately shield at lower heights) or improving current screen planting through infill planting or thinning.
Uncontrolled erosion of visual bunds leading to widespread slope failure.	• Consult with a rehabilitation specialist and consider measures to redesign bunds to avoid future failure (Section 5.2.1). • Repair and reinstate bunds as required.
Pest/insect disturbance leading to failure of screen plantings.	• Consider use of approved pesticides during early stages of screen planting growth. • Increase frequency of routine inspections and maintenance works to ensure establishment of vegetation. • Replant tree and shrubs species as required to provide adequate shielding.
Repeated complaints of adverse night-time lighting impacts from the MPO.	• Identify the site area/activity associated with the complaints and implement appropriate control measures (Section 5.3). Additional control measures will be investigated where complaints persist. • Ensure all site staff completing night-time operations are aware of the visual control measures required to be undertaken (Section 5.3), as well as MACH Energy's statutory obligations regarding lighting impacts (Section 2.1.1).
Repeated complaints regarding the negative visual impact of the MPO.	• Consult with the complainant and implement visual mitigation measures (such as landscaping treatments or vegetation screens) on the privately-owned land experiencing the impacts in accordance with Section 5.6. • Where treatments on privately-owned land are not feasible or where public land is affected, consideration of further landscape treatments on-site to ameliorate the impact.
Repeated complaints regarding direct lighting impact from the rail spur.	• Identify the site area associated with the complaints and inspect relevant lighting screens and screen planting in accordance with Section 6. Additional control measures will be investigated where complaints persist.

8 REVIEW AND IMPROVEMENT OF ENVIRONMENTAL PERFORMANCE

8.1 ANNUAL REVIEW

In accordance with Condition 3, Schedule 5 of Development Consent DA 92/97, MACH Energy will review and evaluate the environmental performance of the MPO by the end of March each year (for the preceding calendar year) (or other such timing as agreed by the Secretary of the DPE).

In relation to landscape management, the MPO Annual Review will:

- include a summary of all landscape treatments undertaken in the past year;
- include a summary of the monitoring undertaken in accordance with the VIMP in the past year;
- identify any visual-related non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance;
- include a summary of visual-related complaints received in the past year;
- identify any trends in the visual monitoring data over the life of the MPO; and
- describe what visual-related measures will be implemented over the next year to improve the environmental performance of the MPO.

The MPO Annual Review will be made publicly available on the MACH Energy website in accordance with Condition 11, Schedule 5 of Development Consent DA 92/97.

8.2 VISUAL IMPACT MANAGEMENT PLAN REVISION

In accordance with Condition 4, Schedule 5 of Development Consent DA 92/97, this VIMP will be reviewed, and if necessary, revised (to the satisfaction of the Secretary of the DPE), within three months of the submission of:

- an MPO Annual Review (Condition 3, Schedule 5);
- an incident report (Condition 7, Schedule 5);
- an Independent Environmental Audit (Condition 9, Schedule 5); and
- any modification to the conditions of Development Consent DA 92/97.

Within four weeks of conducting any such revision, MACH Energy will advise the Secretary of the DPE of the outcomes of the review and submit any revised documents to the Secretary of the DPE for approval.

As described in Section 5.5.6, MACH Energy will undertake a lighting audit as part of the commissioning of the relocated rail infrastructure. The VIMP will be reviewed and revised as required following any change as described in this Section.

The monitoring and maintenance procedures relating to the visual impact mitigation infrastructure (Section 6) would also be revised if necessary.

In accordance with Condition 4A, Schedule 5 of Development Consent 92/97, MACH Energy may submit a revised VIMP for the approval of the Secretary at any time and may also submit any revision to this VIMP required under Development Consent DA 92/97 on a staged basis.

If agreed with the Secretary of the DPE, a revision to this VIMP required under Development Consent DA 92/97 may be prepared without undertaking consultation with all parties nominated under the relevant Condition of Development Consent DA 92/97.

This VIMP will be made publicly available on the MACH Energy website, in accordance with Condition 11, Schedule 5 of Development Consent DA 92/97.

8.3 INDEPENDENT ENVIRONMENTAL AUDIT

In accordance with Condition 9, Schedule 5 of Development Consent DA 92/97, an Independent Environmental Audit of the MPO will be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary of the DPE.

The Independent Environmental Audit will assess the environmental performance of the MPO and review the adequacy of this VIMP. If necessary, appropriate measures or actions to improve the environmental performance of the MPO or this VIMP will be recommended.

9 REPORTING PROCEDURES

In accordance with Condition 2, Schedule 5 of Development Consent DA 92/97, MACH Energy has developed protocols for managing and reporting the following:

- incidents;
- complaints;
- non-compliances with statutory requirements; and
- exceedances of the impact assessment criteria and/or performance criteria.

These protocols are described in detail in the MPO Environmental Management Strategy (MACH Energy, 2021).

In accordance with Condition 8, Schedule 5 of Development Consent DA 92/97, MACH Energy will provide regular reporting on the environmental performance of the MPO on the MACH Energy website.

10 REFERENCES

AECOM (2020) *MPRL Stage 02 – Rail Light Screening Assessment.*

Commonwealth of Australia (2017) *Australian Weeds Strategy 2017 – 2027. Invasive Plants and Animal Committee. Department of Agriculture and Water Resources.*

EMGA Mitchell McLennan (2010) *Mount Pleasant Project Modification Environmental Assessment Report.* Prepared for Coal & Allied Operations Pty Ltd.

EMM Consulting (2022) *MACH Energy Mount Pleasant Review of Rail Light Screening Assessment.* Prepared for MACH Energy.

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Hunter Catchment Management Trust (2003) *Hunter Bushland Resource Kit.*

Hunter-Central Rivers Catchment Management Authority (2007) *Where land meets water resource kit: a guide to riparian management in the Hunter Valley.*

MACH Energy Australia Pty Ltd (2017a) *Mount Pleasant Operation (DA 92/97) – South Pit Haul Road Modification*.

MACH Energy Australia Pty Ltd (2017b) *Mount Pleasant Operation – Mine Optimisation Modification Environmental Assessment.*

MACH Energy Australia Pty Ltd (2017c) *Mount Pleasant Operation – Rail Modification Environmental Assessment.*

MACH Energy Australia Pty Ltd (2021) *Mount Pleasant Operation Environmental Management Strategy.*

VPA Visual Planning and Assessment (2018) *Mount Pleasant Operation Rail Modification Visual Assessment.*

APPENDIX A

CONSULTEE FEEDBACK – KEY CORRESPONDENCE

(AVAILABLE ON REQUEST)

APPENDIX B

APPENDIX 2 OF DEVELOPMENT CONSENT DA 92/97

APPENDIX 2
FIGURE 1 - CONCEPTUAL PROJECT LAYOUT PLAN AT 2021

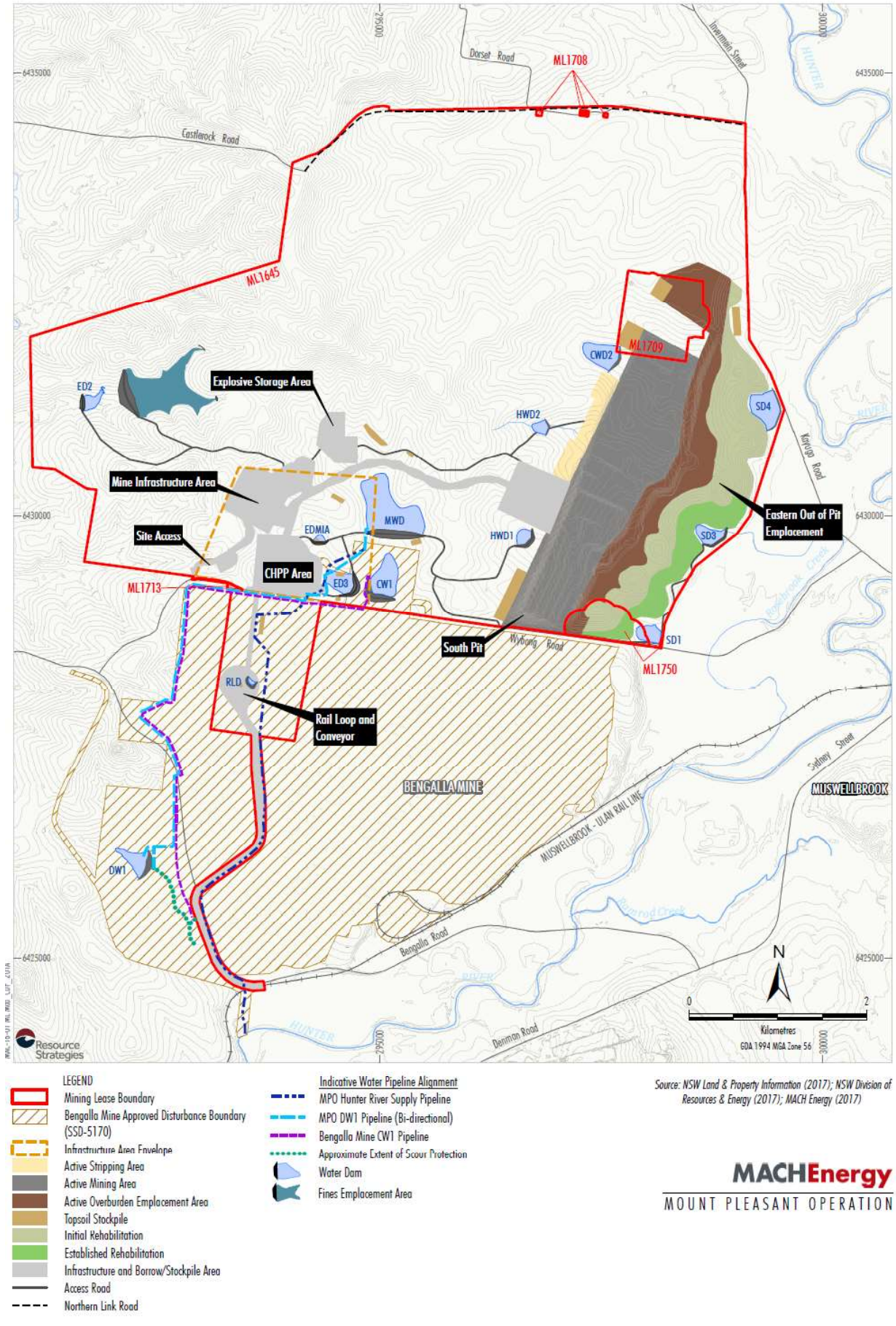


FIGURE 2 - CONCEPTUAL PROJECT LAYOUT PLAN AT 2025

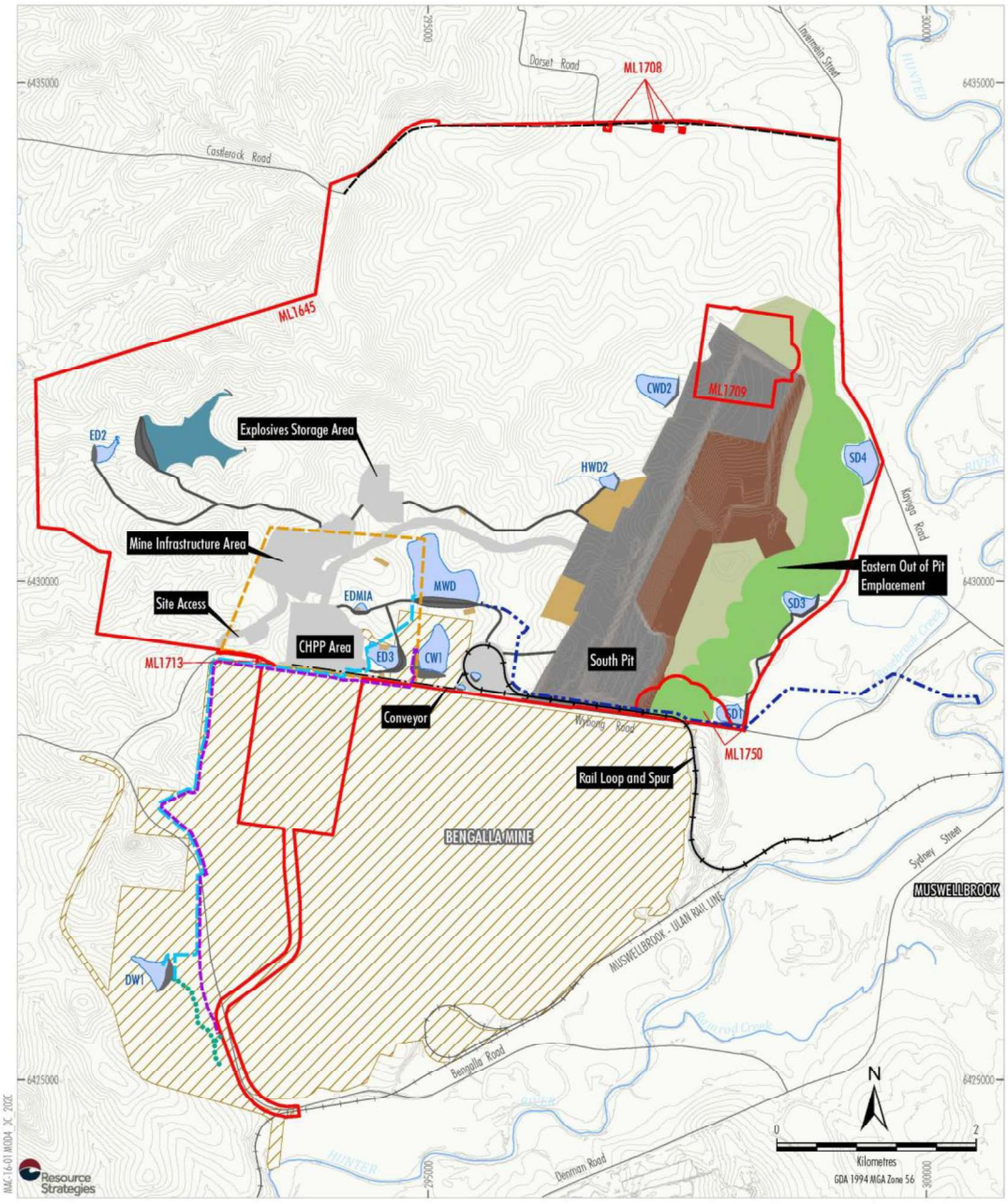
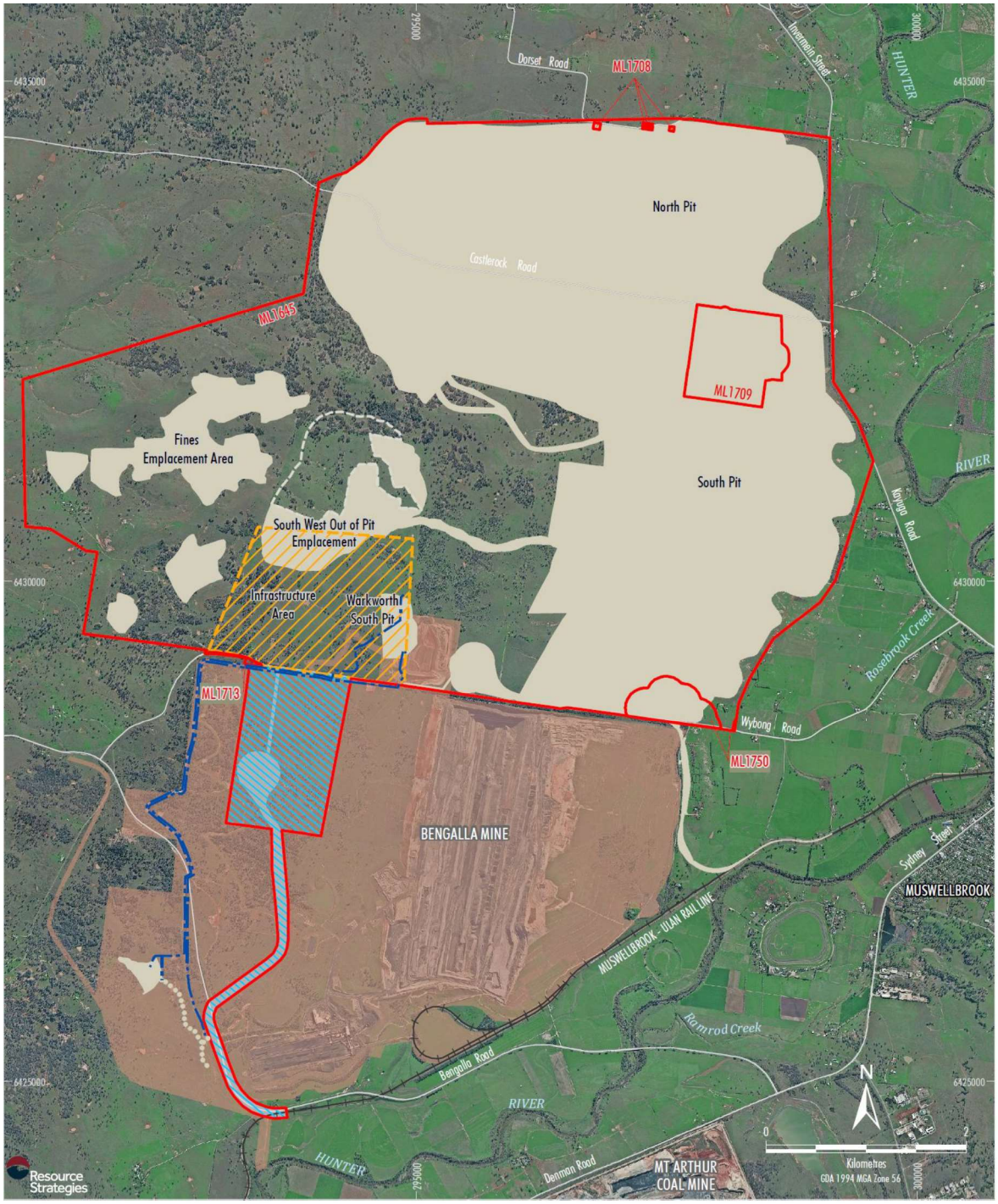


FIGURE 3 - APPROVED SURFACE DISTURBANCE PLAN



LEGEND

- Mining Lease Boundary
- Approximate Extent of Approved Surface Development [1]
- Indicative Water Pipeline Alignment
- Area Relinquished for Overburden Emplacement and Major Infrastructure
- Infrastructure Area Envelope
- Infrastructure to be removed under the Terms of Condition 37, Schedule 3
- Indicative Existing Coal Transport Infrastructure
- Bengalla Mine Approved Disturbance Boundary (SSD-5170)

NOTE

1. Excludes some project components such as water management infrastructure, infrastructure within the Infrastructure Area Envelope, offsite coal transport infrastructure, road diversions, access tracks, topsoil stockpiles, power supply, temporary offices, signalling, other ancillary works and construction disturbance.

Source: NSW Land & Property Information (2017); NSW Division of Resources & Energy (2018); Department of Planning and Environment (2016); MACH Energy (2017)
Orthophoto: MACH Energy (Aug 2016)

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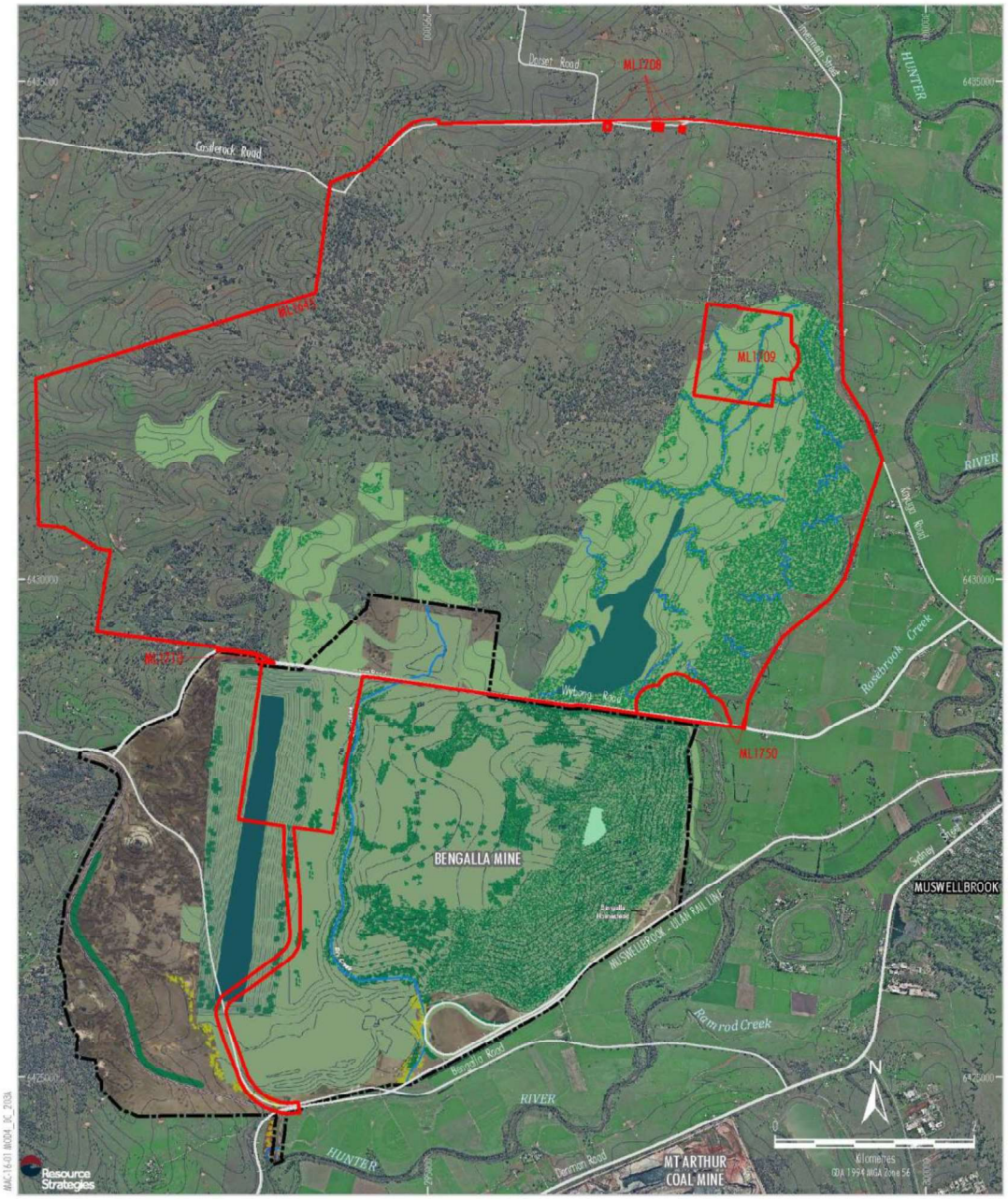
MOUNT PLEASANT OPERATION

Revised Approved Surface Disturbance Plan

FIGURE 4 - CONCEPTUAL FINAL LANDFORM



LEGEND

- Mt Pleasant Mining Lease Boundary
- Final Void
- Final Rehabilitation

Bengalla Mine Conceptual Final Landform *

- Project Boundary (Appendix 2 of Development Consent SSD-5170) (Dated 23 December 2016)
- Dry Creek
- Final Void Lake
- Rehabilitation
- Rehabilitation Class III
- Indicative Tree Screens (or equivalent)
- Treed Rehabilitation
- Indicative Restorative Area

* Digitised from Appendix 9 of Development Consent (SSD-5170) and amended in the Mount Pleasant Operation CHPP area.

Source: NSW Land & Property Information (2017); NSW Division of Resources & Energy (2017); Department of Planning and Environment (2016); MACH Energy (2017)
Orthophoto: MACH Energy (Aug 2016)

MACHEnergy
MOUNT PLEASANT OPERATION
Conceptual Final Landform (2026)