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Illawarra Metallurgical Coal

niche Environment and Heritage

element.

Appin Mine Ventilation and Access Project

SECTION 4.55 MODIFICATION TO BULLI SEAM OPERATIONS PROJECT APPROVAL (08_0150)

Submissions Report

APPIN MINE VENTILATION AND ACCESS PROJECT

Submissions Report for modification to Project Approval 08_0150

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Prepared by

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EXECUTIVE SUMMARY

Illawarra Metallurgical Coal (IMC) is proposing to modify the existing Bulli Seam Operations (BSO) Project Approval 08_0150 (the Mine Approval) through a Modification Application, pursuant to section 4.55 (2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the development of the Appin Mine Ventilation and Access Project (the Project).

The Modification Application for the Project was submitted to the Department of Planning, Industry and Environment (DPIE) for consideration (MP08_0150-Mod-3) and placed on public exhibition for 14 days from 21 July 2021 until 3 August 2021. During this period, the public, organisations, local Council and relevant government agencies were invited to provide submissions on the Project for consideration by the DPIE as part of the determination process.

On 6 August 2021, DPIE requested IMC prepare a response to the submissions for the Project.

The Project

The Project will include the development of two ventilation shafts, mine access infrastructure and improved Site access at 345 Menangle Road, Menangle NSW. The Project is an integral requirement of underground mining, as adequate ventilation infrastructure and mine access is required to ensure a safe and efficient underground working environment. The proposed Project is required to be operational before 2025 to maintain continuity of safe underground mining operations.

Co-locating the ventilation and mine access infrastructure on the Site will reduce the overall development footprint compared with two facilities at separate sites.

Ongoing consultation with community and stakeholders

Community and stakeholder engagement activities for the Project commenced in September 2020 in line with the Community and Stakeholder Engagement Strategy (CSES) that was developed for the Project. The CSES includes continued consultation with the Menangle Advisory Panel (MAP) and other consultation and engagement activities, which will enable effective and transparent engagement to ensure participation is meaningful. Implementation of the CSES will continue during the determination process and, if the Project is approved, the construction and operational phases.

Since lodgment of the Modification Application, IMC has continued to consult with Government, Council and community members regarding the Project. This has included community information sessions (transitioned to online meetings due to current NSW Health restrictions on gatherings), ongoing consultation with landowners and the community, meeting with the MAP and consultation with Government agencies and Wollondilly Shire Council.

Submissions overview

The DPIE received 26 submissions for the Project, with each of the submissions being categorized by submission type. Eight of the 26 submissions were from Government agencies, one from the local Council, two from organisations and 15 from the public. Of the 26 submissions, 12 provided comments, three supported the Project and 11 objected.

Of the submissions made by the public 12 came from the local area of Menangle and Douglas Park and 3 from the broader community within Wilton, Unanderra and Mount Martha in Victoria.

Submissions Report

To prepare this Submissions Report, the submissions were reviewed, and issues raised requiring response were identified and considered. This Submissions Report addresses issues by subject matter, consistent with the DPIE *State Significant Development Guidelines - Preparing a Submissions Report* (July 2021).

The most commonly raised aspects were in relation to traffic and transport, followed by socio-economic concerns and air quality. Other aspects frequently raised in submissions concerned visual amenity, noise and water resources. Table 1 provides a summary of the most common submission themes relating to each aspect, and IMCs response. All themes and responses are addressed in detail in Section 6.

In consideration of the submissions received, this Submissions Report provides additional detail to what appeared in the Modification Application on aspects such as; mitigations for key issues raised including proposed monitoring for noise and air quality impacts; further detail regarding the proposed water infrastructure changes at Ventilation Shaft 6; and additional modeling of the visual screening proposed at the Site.

Further, IMC makes additional commitments to what was presented in the Modification Application. This includes the commitment to undertake additional targeted surveys for *Pimelea spicata* and the Cumberland Plain Land Snail, and additional impact assessment of potential Groundwater impacts resulting from the Project. The results of these further assessments shall be provided to DPIE as they are prepared.i

Table 1 Summary of key submission themes and responses

Aspect	Key Submission Themes	IMC Responses
The Project	Project timing and scheduling Absence of a specific groundwater assessment	The Project would be operated until 2041 in line with the Appin Mine Approval. A specific groundwater assessment will be undertaken.
Social and Economic	Impacts on property values and amenity Damage to private property as a result of construction activities	Criteria set for construction blasting would ensure negligible risk of damage to structures from blasting activities. IMC will offer pre-construction building condition assessments and undertake monitoring.
Biodiversity	Requirement for further targeted surveys	IMC will commission further targeted surveys and assessments. The Appin Mine Biodiversity Management Plan will be updated for the Project.
Water Resources	The generation and removal of wastewater from the Site The proposed augmentation of the water supply at VS6 Recommendations for undertaking works within waterfront land	IMC will investigate the capture and on-site use of rainwater during the detailed design of the Project, to minimize potable water demand. The Project sewerage treatment facility would be connected to a centralised sewerage system, should one with sufficient capacity become available. Additional detail regarding the proposed augmentation of the water supply VS6 are included in this Submissions Report. Works on waterfront land will be in accordance with relevant guidelines.
Noise	Noise impacts of the Project including construction, operational and traffic noise The need for noise monitoring for the Project Construction blasting out of standard construction hours	IMC is proposing out of hours construction activities to reduce the duration of the Project. IMC will develop a construction specific Noise Management Plan. IMC will investigate further noise mitigation measures for the Project. IMC will develop a Drivers Code of Conduct for the Project. IMC will develop a Blast Management Strategy for the Project.
Air Quality & Greenhouse Gas	Air quality impacts from the Project Requirements for air quality monitoring	IMC will develop an Air Quality Management Plan. IMC will implement a Site air quality monitoring program.

Aspect	Key Submission Themes	IMC Responses
Visual Amenity	Visual amenity impacts, lighting and the height of the Project's headframe WSC noted the project proposal, including screening, is consistent with their Draft Scenic Landscapes Study	Acknowledgment that it will take some time before the full benefit of the vegetation screening is achieved, noting it is being implemented proactively prior to commencement of the Project. IMC will continue to consult with residents to confirm the suitability of the selected screening and will consider further design options on Site to further screen the Site. Additional viewpoints provided showing impact of screening.
Lighting	Impact of the lighting for the Project on near neighbours to the Site	IMC will consider potential visual amenity impacts of lighting to neighbouring properties and light spill during detailed design of the Project.
Traffic	Impacts of increased traffic as a result of the Project Transport for NSW supported the recommended Infrastructure Management Plan to enable the future development of the Outer Sydney Orbital Stage 1 (OSO1)	The intersection will be designed in accordance with required standards in consultation with Transport for NSW and Council. A driver's code of conduct will be developed to manage driver behaviour. IMC will continue to work with Transport for NSW regarding the OSO1 and develop the suggested management plan.
Heritage	Heritage NSW recommended amendments to the Aboriginal Cultural Heritage Assessment report (ACHAR) regarding the process for the reburial of Aboriginal objects in NSW	An addendum letter will be submitted noting that all advice and recommendations relating to a care and control agreement should be replaced with Requirement 26 of the DECCW 2010 Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW. The addendum letter would be submitted to the Registered Aboriginal Parties to notify them of this addendum.
Rehabilitation	The Resources Regulator notes proponent must comply with the conditions of the authorisations, including rehabilitation activities	The final rehabilitation land use will be consistent with surrounding land uses over the mine life in consultation with government and the relevant, future, stakeholders and landowners.

Conclusion of this report

Following preparation of this Submissions Report, and in consideration to the additional assessment activities to be undertaken, the Project remains consistent with the Project description provided in Chapter 3 of the Modification Report. Results of the additional assessment activities confirmed the overall low environmental and social impacts of the Project as assessed in the Modification Report.

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1 INTRODUCTION

South32 Illawarra Metallurgical Coal (IMC) is seeking to modify the Bulli Seam Operations (BSO) Project Approval 08_0150 (the Mine Approval) through a Modification Application, pursuant to section 4.55 (2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

IMC received the Mine Approval from the Planning Assessment Commission of NSW under delegation of the Minister for Planning and Infrastructure on 22 December 2011 for current and proposed mining activities. The Mine Approval was gazetted as a State Significant Development (SSD) for the purposes of future modifications on 23 November 2018.

The Mine Approval incorporates the underground longwall mining operations which extract coal from the Bulli Seam using underground longwall mining methods, and the associated surface activities of the Appin Mine (the Mine). The Mine primarily produces hard coking (metallurgical) coal and has an approved operational capacity of up to 10.5 Million tonnes per annum (Mtpa) of Run-Of-Mine (ROM) coal until 2041. The Mine is located in the Southern Coalfield of New South Wales (NSW) approximately 25 kilometres (km) north-west of Wollongong (Figure 1-1).

The Modification Application for the Appin Mine Ventilation and Access Project (the Project) was submitted on 1 July 2021 for assessment under the EP&A Act. The Modification Application, including the Modification Report and specialist environmental assessments completed for the Project, was placed on public exhibition from 21 July 2021 until 3 August, 2021. A comparison of the approved Mine and the Modification Application is provided in Table 2-2.

As a result of the public exhibition of the Modification Application 26 submissions were made on the Project. Eight of the 26 submissions were from Government agencies, one from the local Council, two from organisations and 15 from the public. Of the 26 submissions, 12 provided comments, three supported the Project and 11 objected.

On 6 August 2021, the Department of Planning, Industry and Environment (DPIE) requested IMC prepare a response to the submissions received for the Project. This Submissions Report provides IMC's responses to aspects raised in the submissions. It has been prepared in consideration of the *State Significant Development Guidelines – Preparing a Submissions Report* (DPIE, 2021).

This Submissions Report is structured as follows:

Section 2 Provides an overview of the Project.

Section 3 Provides an analysis of the of the submissions received by DPIE during the public exhibition period.

Section 4 Summarises the actions taken since the lodgment of the Modification Application.

Section 5 Summarises the changes to the Project and additional commitments since the lodgment of the Modification Application.

Section 6 Provides detailed responses to the aspects raised in the submissions.

Section 7 Provides an updated evaluation of Project merits.

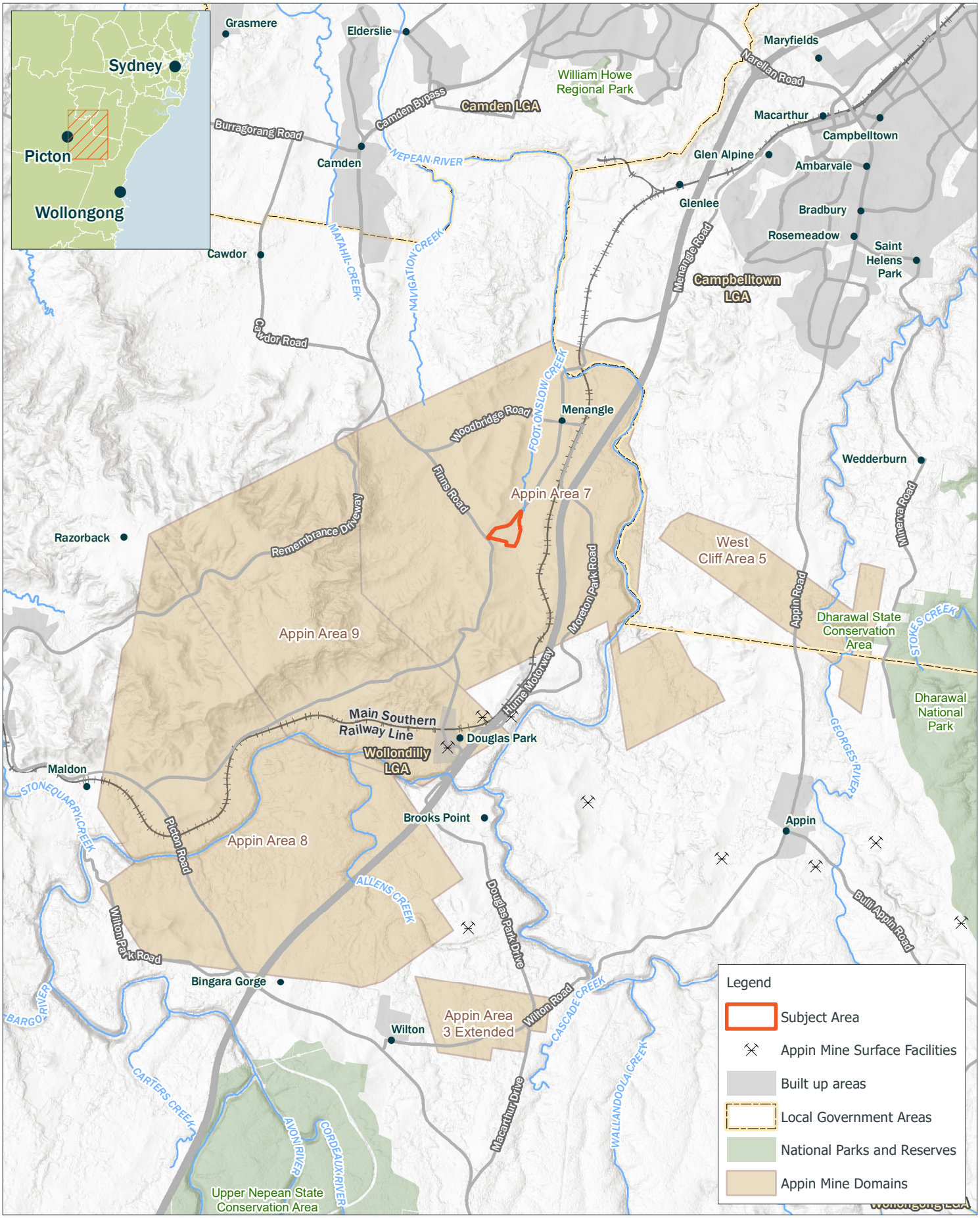

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FIGURE 1-1

Regional Location

Appin Mine Ventilation and Access Project - Submissions Report

Terrain: Multi-Directional Hillshade: Airbus,USGS,NGA,NASA,CGIAR,NCEAS,NLS,OS,NMA,Geodatastyrelsen,GSA,GSI and the GIS User Community

Drawn by: Loren Laughlan File: T:\spatial\projects\a6800a6875_AppinVentShaft_SumissionsResponse_NSW\Maps\report\Submissions_Report\5948_Figure_1-1_RegionalLocation.mxd Last updated: 06-Sep-21 11:54:17 AM

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2 OVERVIEW OF THE PROJECT

The Project will include the development of two ventilation shafts (Ventilation Shaft 7 [VS7] and Ventilation Shaft 8 [VS8]), mine access infrastructure and improved Site access at 345 Menangle Road, Menangle NSW (Lot 20A DP 4450; hereafter referred to as the Site). All works will be contained within the Subject Area as shown in Figure 2-1, which also displays the indicative operational layout for the Project.

Notably, the Project will not increase the volume of coal produced by the Mine and coal handling infrastructure is not proposed as part of the modification. Table 2-1 provides a summary of the key characteristics of the Project.

Table 2-1 Summary of key Project characteristics

Project Element	Project
Summary	Development of supplementary ventilation and mine infrastructure on a property in Menangle, NSW to support the Mine. The Project involves construction and operation of: • One downcast ventilation shaft (VS7) and one upcast ventilation shaft (VS8); • Associated extraction fans, evases and ancillary surface infrastructure to VS8; • Mine access facilities (e.g. head frame and winder within VS7, and associated surface infrastructure); and • Associated infrastructure and provision of services.
Project Hours of Operation	Construction of the shafts would occur 24 hours per day, seven days per week, while the remainder of construction activities associated with the facilities (e.g. installation of surface infrastructure) would generally be limited to daytime construction hours (7 am to 6 pm Monday to Saturday)*. The Site would continue to operate 24 hours per day, seven days per week in accordance with the operation of the Mine under the Mine Approval.
Site Access	The Project would upgrade the Site access point at its intersection with Menangle Road.
Site establishment	Site establishment works would include: • Preparation of the construction footprint including minimal vegetation clearing. • Demolition of existing structures, buildings and redundant services within the site boundary. • Civil works, such as construction of hardstands, access roads, bunds, required road upgrades and temporary utility connections. • Establishment of amenities, site offices, storage areas, spoil management and dewatering pads. • Establishment of the ventilation shaft construction pads and commencement of the pre-sink ahead of main shaft construction. • Construction water management infrastructure.
Provision of services to Site	Works proposed to supply services to the Site would include: • Construction power is anticipated to be supplied via an existing 11 kV powerline along Menangle Road (subject to Endeavour (EE) approval). • Operational power supply will be required from an external 66 kV powerline (augmentation and construction of this EE asset is outside the scope of the Project). The supply will be connected to the Site via a new 66 kV/11 kV electrical switchyard and substation as part of the Project. • Reticulation of power to auxiliary power infrastructure associated with ventilation fans, winder, transformers and site infrastructure. • Connection to new Sydney Water potable water supply and reticulation of water supply onsite. • Water supplied via water trucks during construction phase.
Ventilation Shaft Construction	The shafts would be constructed using a conventional shaft sinking methodology which employs a combination of mechanical excavation and controlled blasting. The pre-sink stage involves the construction, or pre-sinking of the shaft to required depth, before the main shaft construction can commence. The pre-sink would involve using either mechanical excavation methods or controlled blasting to excavate the shaft for the initial 30 - 50 m. The main shaft excavation will be undertaken using small, controlled blasts to break rock incrementally from the final pre-sink depth to the final depth of approximately 591 m for VS7 and 560 m for VS8. The approximate internal diameter for VS7 is ~8.1 m (internal diameter once lined

Project Element	Project
	~7.5 m) and VS8 is ~6.1 m (internal diameter once lined ~5.5 m). The shaft would be lined with an in-situ lining system, nominally of 300 mm thick reinforced concrete (as appropriate). Spoil from the excavation is proposed to be reused as engineered fill on the Site.
Construction of infrastructure associated with VS8	Construction of infrastructure associated with VS8 would include: • Three electric powered ventilation fans and associated motor control centres (MCC). • Emergency diesel powered generators. • Fan housing and ducts.
Construction of infrastructure associated with VS7, including Mine Access infrastructure	Construction of infrastructure associated with VS7 would include: • Downcast evase (flared ventilation air diffusers). • Personnel and materials winder and headframe. • Service bore holes for passage of electrical and communications cabling and also in-shaft services. • Amenities, including storage areas, bathhouses, offices and storage areas.
Rehabilitation	Complete site rehabilitation is anticipated to take approximately 5 years following the decommissioning of the Project (anticipated to occur between 2041 and 2046 based on current approvals).
Employment	The construction workforce will peak at approximately 76 workers being onsite at the same time. Once operational, approximately 308 personnel will access the Site on the busiest day (a maintenance weekday which occurs 1 day per week).

*Some road works potentially requiring traffic management measures, such as cutting in the access road to Menangle Road, line marking the intersection and installation of asphaltic concrete, may be undertaken outside these hours (subject to Council's approval) to take advantage of reduced traffic volumes.

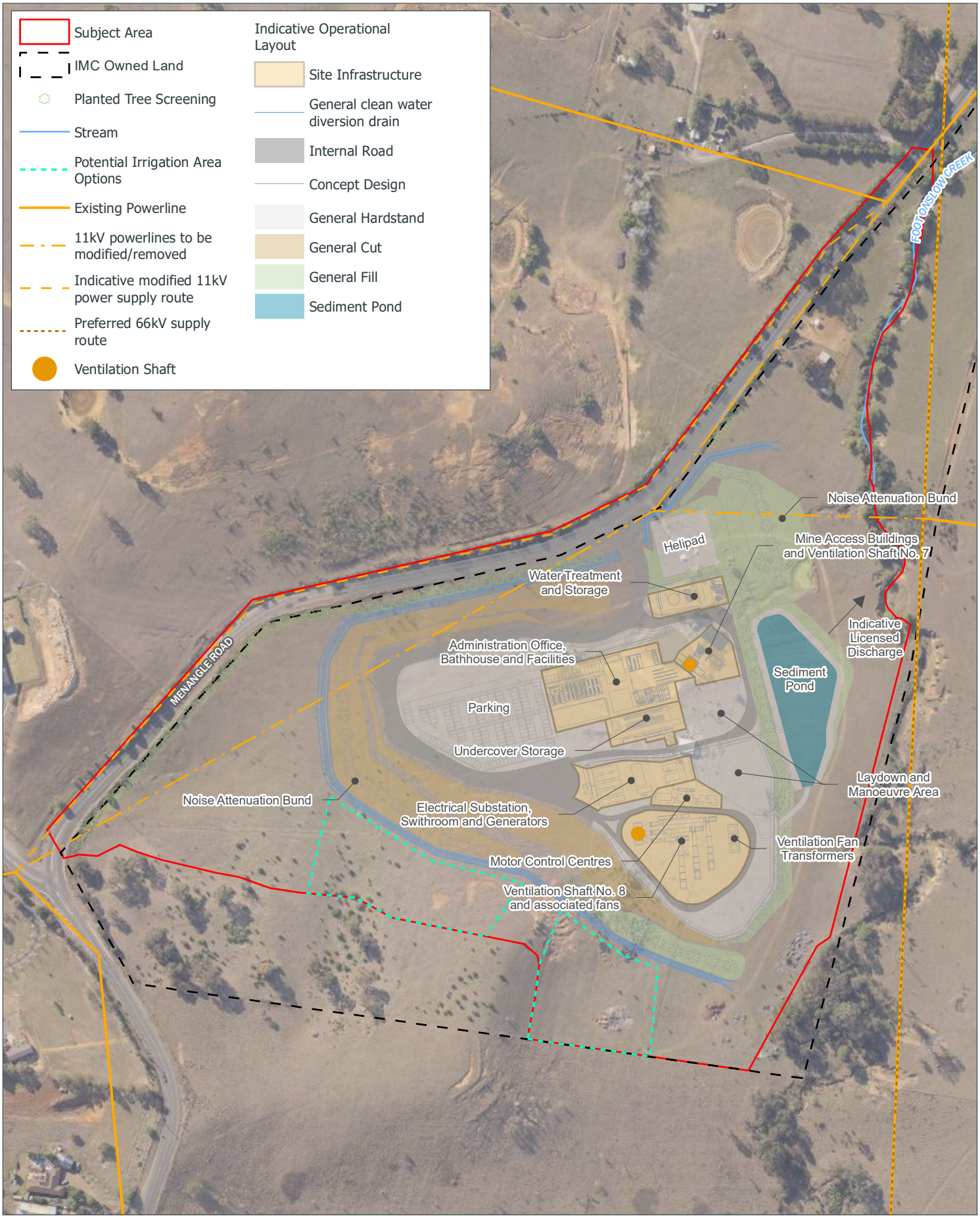

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FIGURE 1-2

Subject Area

Appin Mine Ventilation and Access Project – Submissions Report

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0 50 100

m

GDA 1994 MGA Zone 56

Table 2-2 Comparison of Approved Mine and proposed Modification

Project component	Approved Mine (MP08_150)	Summary of Modification (MP08_0150-Mod-3)
Mining method	Conventional longwall mining techniques	No change
ROM coal production	Up to 10.5 million tonnes of ROM coal from the Mine in a financial year	No change
Mine life	31 December 2041	No change
Project Area	All land to which the Project application applies, including the longwall mining domains and the surface facilities sites, as listed in Appendix 1 and shown in Appendix 4 of the Mine Approval	This Modification Application will incorporate the Site into the Project Area
ROM coal handling and transport	Up to 9.3 million tonnes of product coal from the Mine in a financial year. ROM coal delivered to WCCPP directly via conveyor from Appin North or via truck from Appin East	No change
Ventilation shaft sites	Appin East No.1 and No. 2 ventilation shaft site Appin East No. 3 ventilation shaft site Appin West No. 6 ventilation shaft site	Proposed new VS7 and VS8 shaft Site (the Site is yet to be named in accordance with IMC site naming conventions)
Personnel access to underground workings	Appin West (Access Shaft) Appin East (Access Drift) Appin North (Access Drift)	Addition of mine access infrastructure at the Site (within VS7) (Access Shaft)
Hours of operation	24 hours per day, 7 days a week	No change
Electricity supply	Douglas Park substation site	Construction power is anticipated to be supplied via an existing 11 Kilovolt (kV) powerline along Menangle Road. Augmentation of this line will be required to connect power to the Site Operational power supply will be required from an external 66 kV powerline (location and specifications will be confirmed during the detailed design phase of the Project) This will be connected to the Site via a new 66 kV/11 kV electrical switchyard and substation as part of the Project Backup diesel power generation would be included in both construction and operational phases of the Project
Water supply	A potable water supply is purchased from Sydney Water.	Construction phase: Water will be delivered to the Site via water trucks Operational phase: A permanent water supply is proposed to be established during the construction phase Connection to this supply would be undertaken as part of the Project, when the network is available.
Employment	At full development the Project would employ in the order of 1,170 people.	The construction workforce will peak at ~76 workers on site at the same time Once operational, ~308 personnel will access the Site. A significant proportion of the operational workforce will consist of existing employees/contractors who currently access the Mine via alternate sites

3 ANALYSIS OF SUBMISSIONS

3.1 Breakdown of submissions

During the public exhibition period, 26 submissions were made on the Project. Table 3-1 provides a breakdown of the submission received for the Project. Appendix A provides the Register of Submitters.

Table 3-1 Breakdown of submissions

Category	Support	Object	Comment	Total Number of Submissions
Agency	-	-	8	8
Local council	-	-	1	1
Organisation	1	-	1	2
Member of the Public	2	11	2	15
Total	**3**	**11**	**12**	**26**

3.1.1 Agency and Council submissions

A total of eight agency submissions and one Council (Wollondilly Shire Council) submission were received.

The submissions were in the form of comments, and none of the agencies or the Council indicated that they oppose the Project. Several of the submissions sought further clarification regarding aspects of the assessment and or provided recommendations relating to consent conditions for the Project. These submissions are discussed further in Section 66.

3.1.2 Organisation submissions

Two submissions were received from organisations. One organisation supported the Project. One organisation provided comments. These submissions are discussed further in Section 66.

3.1.3 Public submissions

A total of 15 submissions were received from members of the public. Of these, two supported the Project, 11 objected to the Project and two provided comments.

The submissions were analysed based on proximity to the Project Area to determine the level of local (within approximately 5km), regional (between approximately 5 and 100km) and broader community (>100km) interest in the Project. Of the public submissions, 12 were received from the local area (Menangle and Douglas Park, NSW), one from the regional area (Wilton) while two came from the broader community (Unanderra, NSW and Mount Martha, Victoria).

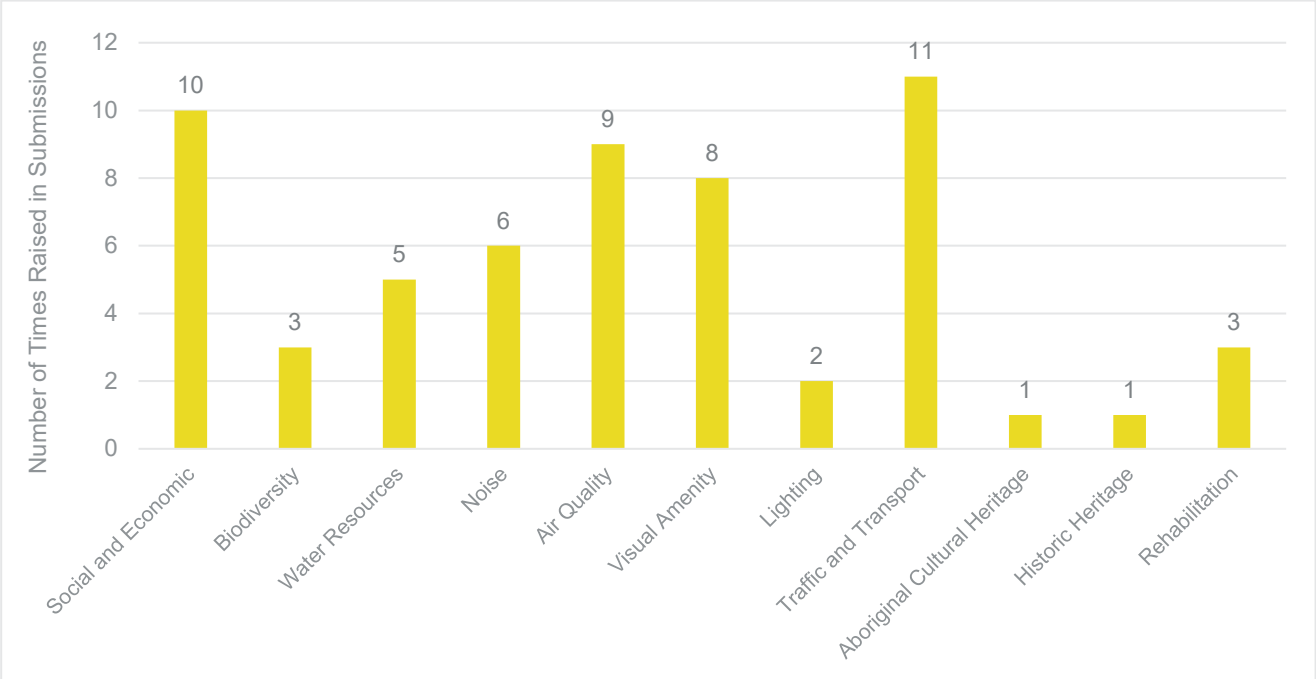
The key issues raised in the public submissions included:

- General objection to the Project.
- Visual Amenity.
- Lighting.

- Social and economic.
- Water resources.
- Community engagement.
- Traffic.
- Air quality.
- Noise.
- Non-Aboriginal Heritage.
- Rehabilitation.
- Submissions beyond the scope of the Project.

The public submissions are addressed in Section 6**.** A breakdown of the aspects raised in submissions is provided in Figure 3-1.

Figure 3-1 Key aspects raised in submissions



4 ACTIONS TAKEN SINCE EXHIBITION

4.1 Engagement activities

Since lodgement of the Modification Application, IMC has continued to consult with Government, Council and community members regarding the Project. This includes:

- A number of community information sessions held regarding the Project (transitioned to online meetings due to current NSW Health restrictions on gatherings).
- Ongoing consultation with landowners and the community, including meeting with the MAP.
- Consultation with NSW Government agencies, including:
    - Heritage NSW.
    - Environment, Energy and Science Group (DPIE).
    - Transport for NSW.
- Consultation with the Wollondilly Shire Council.
- Ongoing consultation with DPIE.

4.2 Further environmental assessment

Since lodgement of the Modification Application, and in consideration of the responses received, environmental analysis and assessment has been ongoing. In particular, the following has occurred:

- Consulted with key stakeholders and progressed the detailed design of the Site access infrastructure and facilities within the road reserve.
- Further development of the Project groundwater model, in response to the submission relating to potential impacts of local groundwater resources.

4.3 Further refinement of the Project

Section 3.7.14 of the Modification Report noted that IMC will refine and improve aspects of the Project throughout detailed design. This included aspects of the Project identified in the Modification Report to be further developed and improved, such as the construction blast design and mitigations required for construction blasting out of hours (OOH).

Since lodgement of the Modification Application, continued refinement of the Project has occurred in response to detailed design progressing and feedback from stakeholders. This has included:

- Further development of the intersection upgrade design, in response to the submissions and in consultation with key stakeholders (Wollondilly Shire Council and Transport for NSW). This design refinement will be ongoing.
- The Modification Application proposed minor upgrades at the Ventilation Shaft 6 water supply point to support the construction water supply. The scope of work for the minor upgrades has been provided in further detail in this report in Section 6.5.3.1.
- IMC is consulting with specialised shaft sinking contractors to review their recommended construction methodology and the specific mitigations required to manage potential noise impacts.

Design of the Project (including the acoustic sheds to manage OOH noise) is being optimised to ensure relevant construction Noise Management Levels (NML) are met. Initial feedback from shaft sinking contractors has noted the practicality and effectiveness of sheds and other effective noise attenuation options. Noise mitigation options are presented in Table 28 of the Noise and Vibration Impact Assessment (Appendix B of the Modification Report).

Detailed noise modelling of each proposed construction methodology is being undertaken, to ensure the noise attenuation options selected will mitigate each specific noise source and achieve the required NMLs. IMC is committed to adopting improvements, efficiencies and innovations where they can be demonstrated to comply with the Mine Approval (as modified) and as such a combination of practical noise mitigation options will continue to be investigate during this phase.

5 CHANGES TO THE PROJECT AND ADDITIONAL COMMITMENTS

Additional clarification and justification of commitments made in the Modification Application are presented in this Submissions Report. In consideration of the key aspects raised in submissions objecting to the Project, IMC makes the following additional commitments:

- The Project sewerage treatment facility would be connected to a centralised sewerage system, should one with sufficient capacity become available in the area (refer to Section 6.5.3.2).
- IMC will commission further targeted surveys for *Pimelea spicata* and the Cumberland Plain Land Snail at the Site. The results will be supplied to DPIE upon completion (refer to Section 6.4.3.1).
- IMC will develop a site air quality monitoring program for the construction phase of the Project, in consultation with DPIE. This monitoring program would be documented in the relevant Construction Management Plan (refer to Section 6.7.3.2) and has been added to the Project Statement of Commitments (Attachment 1 of the Modification Report, Table SOC-3).
- IMC will commission further assessment of the potential groundwater impacts associated with the Project. The results will be supplied to DPIE upon completion (refer to Section 6.2.3.5).
- As presented in the Modification Report, no structural or building impacts to private property are anticipated from construction works. However, IMC will offer pre-construction building dilapidation reports to neighboring properties (refer to Section 6.3.3.2).
- The recommendations within the Aboriginal Cultural Heritage Assessment report relating to a care and control agreement will be replaced with the requirements of Requirement 26 of the DECCW 2010 Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW. An addendum letter to the Aboriginal Cultural Heritage Assessment report is provided in Appendix D. The commitment made in the Project Statement of Commitments (Attachment 1 of the Modification Report, Table SOC-3) regarding the care and control agreement will be updated to reflect this change.

The revised Statement of Commitments (Table SOC-3) is provided in Appendix B.

6 RESPONSE TO SUBMISSIONS

The submissions have been categorised in accordance with the *State Significant Development Guidelines – Preparing a Submissions Report* (DPIE, 2021), and grouped to ensure each of the key issues raised in the submissions have been addressed. The Submissions Register in Appendix A details where in Section 6 individual submissions have been addressed.

6.1 Procedural matters

6.1.1 Submissions

6.1.1.1 Public and organisation submissions

Comments made in public and organisation submissions regarding the procedural matters of the Project, including five public submissions, were most commonly related to:

- The length of time the Modification Application was placed on public exhibition; not being long enough to allow for adequate review of the material.
- Concerns that the Project was not in compliance with planning legislation, and in particular land zoning.
- The level of community engagement undertaken for the Project being adequate, particularly given the restrictions on gatherings due to the COVID-19 pandemic.

Endeavour Energy also made a submission requesting consultation in relation to the electrical works proposed.

6.1.1.2 Agency and Council submissions

Wollondilly Shire Council made a submission regarding consultation with Council prior to the construction of the intersection required for the Project.

Wollondilly Shire Council also made a submission on the Project regarding community engagement undertaken during the assessment. It is noted that the Council stated 'The extent of community engagement by South32 with nearby residents and landholders is also supported and welcomed.' The key matters raised relating to the community engagement undertaken for the Project included:

- Community engagement section being focused on outputs rather than showing how community concerns were addressed.
- The type of engagement undertaken.
- The suggestion that an online forum would be beneficial, particularly given the restrictions on gatherings due to the COVID-19 pandemic.

Transport for NSW also made a submission requesting consultation in relation to the Site access upgrade.

6.1.2 Key aspects

In consideration of the submissions described above, responses to the following key aspects are provided below:

- Compliance with planning legislation.
- Statutory requirements regarding the public exhibition period.
- Requests for continued consultation with stakeholders.

- Level of community engagement undertaken for the Project.

6.1.3 Response

6.1.3.1 Planning Legislation - Land Zoning

The Project is located wholly within the Wollondilly Shire Council Local Government Area (LGA) and is zoned RU2 – Rural Landscape in accordance with the Wollondilly Local Environmental Plan 2011 (Wollondilly LEP). Under the land zoning RU2 – Rural Landscape, open cut and underground mining is prohibited.

The *State Environmental Planning Policy – (Mining, Petroleum Production and Extractive Industries)* (the Mining SEPP) regulates the permissibility and assessment requirements for mining, petroleum production, extractive industries and related development. The Project includes the construction of shafts and access pits associated with the existing underground mine and is therefore, defined as underground mining in accordance with the Mining SEPP.

Under Clause 7(1)(a) of the Mining SEPP, underground mining is permissible on any land, thus, the Project is permissible within the current prescribed land use zone of RU2 – Rural Landscape.

Clause 12 of the Mining SEPP requires the consent authority to consider the compatibility of proposed mining developments with existing land uses in the area. Section 4.6.4 of the Modification Report outlines the Project's consistency with the prescribed land use zone objectives as per the Land Use table of the Wollondilly LEP.

6.1.3.2 Statutory requirements regarding public exhibition periods

The Modification Application is seeking to modify an existing SSD consent (MP08_0150) under Section 4.55 (2) of the EP&A Act.

Under the EP&A Act, DPIE is required to exhibit applications seeking to modify an SSD consent under section 4.55 (2) of the EP&A Act. DPIE determined the exhibition period of the Modification Application to be 14 days, in accordance with the provisions of the EP&A Act.

6.1.3.3 Requests for continued consultation with stakeholders

During the preparation of the Modification Report, IMC consulted with a number of agencies, organisations, Wollondilly Shire Council and landholders (refer to Table 5-5 of the Modification Report). IMC is committed to continued consultation with stakeholders throughout all stages of the Project.

Consultation with Wollondilly Shire Council was undertaken in May and June 2021 regarding the proposed road and intersection upgrades, economic contribution to the local region, community engagement undertaken and proposed construction methodology. IMC will continue to consult with Wollondilly Shire Council, in particular regarding matters related to the development of the Site access infrastructure and road corridor activities, discussed further in Section 6.10.

As recommended in the submission from Transport for NSW, IMC will continue to consult with Transport for NSW in relation to the Project and has sought to discuss matters concerning the development of the Site access infrastructure and road corridor activities in particular, as discussed further in Section 6.10.

As recommended in the submission from Endeavour Energy, IMC will continue to consult with Endeavour Energy's Network Connections Branch in order to ensure their requirements are included in the design being prepared for Endeavour Energy certification, as part of the Project.

6.1.3.4 Community engagement undertaken

As outlined in Section 5 of the Modification Report, a detailed Communication and Stakeholder Engagement Strategy (CSES) was developed for the Project, which included:

- Profiling the area surrounding the Site.
- Identifying key stakeholders.
- Outlining key messages.
- Describing consultation processes and engagement mechanisms.

The majority of the engagement processes and mechanisms employed by IMC for the Project utilise existing process from current Appin Mine operations. Community engagement for the Project commenced in September 2020 in line with the CSES. The level of engagement and the delivery methods utilised were tailored to each stakeholder group according to proximity and interest to the Project. The engagement level varied from informing (providing the stakeholder with balanced and objective information to assist with understanding) to consulting (where feedback is actively sought). Examples of consultation is included in Table 5-5 in the Modification Report.

Engagement was undertaken via the following methods:

- Face to face meetings.
- Door knocks.
- Phone calls.
- Briefings.
- Community forums, including establishing the MAP and meeting with the existing Douglas Park Advisory Panel (DPAP) and Illawarra Community Consultative Committee (ICCC).
- Printed materials including fact sheets, four Project Updates and community information kits.
- Specific website developed for the Project.
- Community Information Sessions.
- Visual 3D model of the Project, allowing views to be created from any location within the vicinity of Menangle and Douglas Park.

Valuable dialogue between the community and the Project team had occurred during the period via the methods listed above. Through this engagement, community concerns regarding a variety of issues were conveyed to the Project team. Through this consultation with the community, IMC has been able to commit to or implement measures to address community concerns. Through this consultation process, IMC has, or will, incorporate the following in the Project:

- Tree planting to mitigate visual impacts should the Project be approved (current).
- Consultation regarding noise mitigation options at residences (current).
- A modification to the original name of the Project in response to ICCC feedback (completed).
- Investigation of rainwater capture and re-use in the scope of detailed design of the mine access component of the Project (future inclusion in the detailed design phase).
- Investigation of alternatives to the use of warning alarms on the winder cage to warn personnel working in the vicinity of the winder cage of its impending movement (future inclusion in the detailed design phase).
- Investigation of decorative planting within the site carpark to minimize extent of open hardstand areas (future inclusion in the detailed design phase).

In addition, residents near the Project location and the MAP members were briefed on the environmental assessment modelling prior to public exhibition. Community members have also been provided a summary of noise and air quality predictions included in the Modification Report.

Online community forums have been held to accommodate increased COVID-19 restrictions. Community Information Sessions planned for late June at the Menangle Rural Volunteer Fire Brigade Station were postponed due to the introduction of COVID-19 restrictions. As all community members had been asked to register the participants were able to be contacted, and online information sessions rescheduled in July. Project Update Four, delivered to 855 homes and businesses in the local community in July 2021, also included the offer for online community information sessions. The July 2021 MAP meeting was also transitioned to an online meeting, given the restrictions, and all community meetings will continue to be held online until restrictions are eased.

Implementation of the CSES will continue during the determination process and, if the Project is approved, the construction and operational phases.

6.2 The Project

6.2.1 Submissions

6.2.1.1 Public and organisation submissions

A number of public submissions were received regarding the Project in general, most commonly related to:

- The overall Project timing and scheduling, considering the duration of Project phases, the proposed life of the Project and the life of the Appin Mine (including specific Mine infrastructure such as Ventilation Shaft No. 6).
- Concerns regarding the title of the Project and if it adequately described the location of the Project.

6.2.1.2 Agency and Council submissions

Wollondilly Shire Council made a submission regarding the *"Adequacy of the Modification Application Documentation".* The key matters raised in the submission relating to this aspect included:

- Responses to previously raised community concerns (notably to noise, air quality and visual aspects) and ongoing engagement.
- Consideration of traffic management implications associated with the Project consistent with Council requirements.
- The adequacy of assessment and management of potential impacts to biodiversity and water sources (surface and groundwater) including nearby bores on rural properties.
- Absence of a Groundwater Assessment.

The Environment Protection Authority (EPA) made a submission regarding the proposed changes to the Project Approval conditions regarding Environment Protection Licence (EPL) 2504 and corresponding application requirements.

6.2.2 Key aspects

In consideration of the submissions described above, responses to the following key aspects are provided below:

- Project timing and life of Project.
- Project title.
- Environment protection licencing.
- Adequacy of Modification Report.

6.2.3 Response

6.2.3.1 Project timing and life of the Project

The indicative Project schedule, outlined in Table 3-5 of the Modification Report, includes a breakdown of the stages required to complete the Project. The Project will comprise multiple stages of construction and operation, including the following:

- Site establishment phase.
- Construction phase: VS8.
- Construction phase: VS7.
- Construction phase: mine access infrastructure.
- Operational phase.

As outlined in the indicative Project schedule provided in the Modification Report and Table 2.1 of the Traffic Impact Assessment (Appendix D of the Modification Report), the construction phase of the Project is expected to commence in July 2022 with the construction of the ventilation shafts and ancillary infrastructure being completed by December 2024. The date for completion of shaft construction given in the Executive Summary of the Traffic Impact Assessment is a typographical error and does not impact the outcomes of the assessment which refers to the dates given in Table 2.1.

As outlined in the indicative project schedule provided in the Modification Report, the construction of mine access infrastructure, including the winder and headframe, is expected to commence in July 2024 and be completed in 2026 with a duration of between 12-18 months from commencement. The date for completion of mine access construction given in Table 22 of the Noise and Vibration Impact Assessment (Appendix B of the Modification Report) is a typographical error. Nonetheless, the potential duration of 18 months is reflected in the assessment and as such does not impact the outcomes of the assessment.

The Project is a modification to the existing Mine Approval, which permits IMC to mine the Bulli Seam until 31 December 2041. As summarised in Section 1.4 of the Modification Report, the Project is required for the safe and efficient operation of the approved Appin Mine.

The Modification Application is not proposing to decommission Ventilation Shaft No. 6. The existing ventilation infrastructure is required to support current and future underground mining activities. A description of the Project is within Section 3 of the Modification Report, with a comparison to the existing mine approval in Section 2 of this Submissions Report or Section 3.2 of the Modification Report.

6.2.3.2 Project title

The current title of the Project (Appin Mine Ventilation and Access Project) was amended from the original title (Appin Ventilation and Mine Access Project) in response to community feedback during the initial stages of consultation. The Project title reflects the relationship of the Project with the Appin Mine.

The ICCC were briefed on the Project in September 2020. The briefing included confirmation of the proposed location of the Project. The collateral for the planned community mailout, Project Update One (refer to Attachment 3 of the Modification Report), was presented at the meeting. The ICCC noted that *'the name of the project should be Appin Mine Ventilation and Access Project, rather than Appin Ventilation and Mine Access Project. The latter could be perceived as the project being in the Appin area*'.

IMC accepted this feedback and altered the name of the Project in all future communications, noting that it was too late to change Project Update One. Minutes from the September 2020 ICCC meeting can be found on the IMC website[1].

6.2.3.3 Environment protection licencing

IMC notes the EPA submission regarding the proposed changes to the Project Approval conditions regarding EPL 2504 and corresponding application requirements.

IMC accepts the recommendation made by EPA and has noted a commitment in Section 5 that the sewerage treatment facility would be connected to a centralised sewerage system should one with sufficient capacity become available in the area during the life of the Project.

6.2.3.4 Adequacy of Modification Report

The Modification Report and associated specialist reports have been completed in accordance with the relevant legislation, policies and guidelines (refer to Table 6-1). IMC notes the submission from Wollondilly Shire Council, responses to community raised concerns (notably noise, air quality and visual amenity) and ongoing engagement are outlined in Sections 6.3, 6.6, 6.7 and 6.8, consideration of the traffic management implications of the Project are outlined in Section 6.10, and the adequacy of the Biodiversity assessment and water resources are in Section 6.4 and Section 6.5 respectively.

IMC has prepared the Modification Report in accordance with the EP&A Act.

Table 6-1 Applicable legislation and guidelines to assess environmental impacts

Environmental Aspect	Applicable Legislation and Guidelines to Assessment
Biodiversity	OEH (2019) Biodiversity Assessment Method (BAM) using the BAM Calculator.
Noise	DECC (2009) Interim construction noise guideline (ICNG). EPA (2017) Noise policy for industry (NPI). DECCW (2011) Road noise policy (RNP). DEC (2006) Assessing Vibration: A technical guideline.
Air Quality and Greenhouse Gas	NSW EPA (2017) Approved methods for the modelling and assessment of air pollutants in New South Wales (approved methods). NSW EPA (2006) Assessment and measurement of odour from stationary sources in NSW.
Traffic and Transport	Austroads Guide to Road Design and RMS supplements. Austroads Guide to Traffic Management and RMS supplements. Austroads Guide to Traffic Management Part 12. Traffic Impacts of Developments.
Aboriginal Cultural heritage	DEC (2005) Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation. DECCW (2010) Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales. DECCW (2010) Aboriginal Cultural Heritage Consultation Requirements for Proponents. OEH (2011) Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW. Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (2013).
Historical Heritage	Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (2013).

[1] https://www.south32.net/our-business/australia/illawarra-metallurgical-coal/documents

Environmental Aspect	Applicable Legislation and Guidelines to Assessment
	Heritage Office (2001) Assessing Heritage Significance. Heritage Council (2009) Assessing Significance for Historical Archaeological Sites and 'Relics'.

6.2.3.5 Absence of a groundwater assessment

Groundwater modelling was undertaken as part of the Project design and assessment. A specialist study was not included in the scope of assessment proposed to DPIE in the Preliminary Modification Application due to the very low level of impact anticipated. Groundwater was addressed in the Modification Application in Sections 2.2.4 and 6.2.2. Further, Section 3.7.3.5 of the Modification Report also notes that the progressive lining of the shaft with an in-situ concrete lining system will act to reduce the ingress of groundwater into the shaft.

IMC has commissioned further groundwater modelling to inform the detailed design of the project, specifically the ventilation shaft construction. The outcomes of that assessment, which is being prepared in consideration of the concerns raised in the submissions (including an assessment of private bores), will be supplied to DPIE upon completion.

6.3 Socio-Economic

6.3.1 Submissions

6.3.1.1 Public and organisation submissions

Submissions received from members of the public relevant to potential social and economic effects of the Project included:

- Potential impact to public telecommunications infrastructure during construction of the Project.
- Potential impacts on property values and amenity in the area adjacent to the Project.
- Potential damage to private property as a result of construction activities.

6.3.1.2 Agency and Council submissions

There were no agency or Council submissions related specifically to this category.

6.3.2 Key aspects

In consideration of the submissions described above, responses to the following key aspects are provided below:

- Potential impacts on public infrastructure.
- Potential impacts on property including value, amenity and damage to private property.

6.3.3 Response

6.3.3.1 Impacts to Public infrastructure

The layout of the Project has taken into consideration existing public services and IMC has consulted service providers on the location of services within and adjacent to the site. The Project is planning for

interaction with these services, and where appropriate, relocation or upgrading of these services to facilitate construction.

IMC has engaged with power, water, telecommunications service providers in regard to the Project and will make relevant applications to each in relation to their services as appropriate. IMC is also engaged in ongoing consultation with Wollondilly Shire Council in relation to the location of these services within the Menangle Road corridor and any requirements Council may have in relation to maintaining them in a safe and serviceable manner.

The Project is not expected to unexpectedly intersect public service infrastructure and any planned interaction with those services will be carried out as per the relevant permits and applications.

6.3.3.2 Impacts to property value, amenity and condition

IMC operations and its associated surface infrastructure has historically co-existed with suburban and rural areas in Appin, Wilton, Douglas Park, Kembla Heights and Mount Kembla townships. The Project's potential influence on local property values should be considered in the context of the broader southwest Sydney market and future development in the area. The Menangle and Menangle Park townships have been identified to experience future growth and development[2] including the Outer Sydney Orbital corridor which is proposed to co-exist at the same location as the Project.

The Noise and Vibration Impact Assessment (Appendix B of the Modification Report) assessed the potential from Project borne vibration to cause structural or cosmetic damage to neighbouring properties. It is noted that vibration impacts during general construction activities are considered unlikely and the criteria set for construction blasting would ensure negligible risk of damage to off-site structures from blasting activities. In response to the submissions received, IMC will offer pre-construction building dilapidation reports to neighbouring properties. Eligibility for these assessments will be confirmed during the detailed design for the Project, in consultation with neighbouring properties. Further, IMC will undertake a range of environmental monitoring programs on the Site (including noise and vibration) consistent with best practice construction management.

IMC will continue to consult with the community to confirm the suitability of the selected visual screening and will continue to consider design opportunities to further screen the Site from the community and motorists, where feasible. Further discussion on visual amenity matters associated with the Project are provided in Section 6.8.

6.4 Biodiversity

6.4.1 Submissions

6.4.1.1 Public and organisation submissions

No public or organisation submissions were received regarding potential biodiversity impacts of the Project.

[2] Greater Mcarthur 2040 (DPIE, November 2018) (https://s3.ap-southeast-2.amazonaws.com/dpe-files-production/s3fs-public/dpp/297943/Greater%20Macarthur%202040%20Interim%20Plan.pdf)

6.4.1.2 Agency and Council submissions

The Environment, Energy and Science Group (EES) within DPIE and Wollondilly Shire Council provided submissions regarding the potential biodiversity impacts associated with the Project.

Wollondilly Shire Council requested that further survey for the Cumberland Plain Land Snail be undertaken, surveys for Downy Wattle (*Acacia pubescens*) be incorporated into the Biodiversity Management Plan (BMP) and that a Vegetation Management Plan (VMP) be prepared for riparian corridor vegetation.

The EES requested that further targeted surveys for the Spiked Rice-flower (*Pimelea spicata*) be undertaken at the Site.

6.4.2 Key aspects

In consideration of the submissions described above, responses to the following key aspects are provided below:

- Spiked Rice-flower *(Pimelea spictata)* targeted surveys.
- Identification of biodiversity values and further surveys for Cumberland Plain Land Snail.
- Management of riparian corridor vegetation.

6.4.3 Response

6.4.3.1 Spiked Rice-flower (*Pimelea spictata*) targeted surveys

The biodiversity assessment undertaken for the Project included targeted surveys for the Spiked Rice-flower, *Pimelea spicata*, within shrubland habitat during August 2020 and January 2021. The shrubland habitat was considered the only likely habitat for the species within the Subject Area as the grassland habitat was considered to represent very poor habitat potential. The species was not recorded.

As described in the Biodiversity Assessment Development Report (BDAR) (Appendix E of the Modification Report for the Project) Plant Community Type (PCT) 849 grassland at the Site is not considered to be potential habitat for *Pimelea spicata* given the site's long history of grazing and disturbance and the poor habitat quality as defined by the very low vegetation integrity (VI) score (5.9) of the grassland.

In addition, the habitat notes within BioNet for this plant state that Blackthorn (*Bursaria spinosa*) is often present at sites where *Pimelea spicata* is recorded and may be important to protect the species from grazing. The PCT 849 shrubland (containing Blackthorn) was targeted during the Site assessment for the BDAR. Patches of Blackthorn within the Site are very small and isolated and were surveyed over multiple site visits.

Notwithstanding, IMC will commit to commissioning further targeted surveys for *Pimelea spicata* at the Site. The results of the surveys will be provided to DPIE upon completion. This commitment is noted in Section 5.

6.4.3.2 Identification of biodiversity values and further surveys

Wollondilly Shire Council, in their submission, requested that survey for the Cumberland Plain Land Snail be ‘undertaken at the base of mature trees and in areas of the Site supporting woody debris/litter cover, despite the assessment of likely habitat as low in the BDAR’.

A single native tree occurs within the Subject Area. Given the disturbance history of the Site, the BDAR (Appendix E of the Modification Report for the Project, see Table 10) concluded that ‘the subject land is

considered too degraded to support suitable habitat for this snail. In addition, no suitable or significant cover of course woody debris is present'.

Notwithstanding, IMC will commit to commissioning further targeted surveys for the Cumberland Plain Land Snail at the Site. The results of the surveys will be provided to DPIE upon completion. This commitment is noted in Section 5.

Council also raised a concern that the 'BDAR has separated grassland as a separate subunit of Cumberland Plain Woodland (CPW) rather than incorporate any areas satisfying definition of Derived Native Grassland into the mapped occurrences of this ecological community on the site'.

Grassland within the Site has been mapped as a separate condition class of the PCT from which they were derived (i.e. PCT 849). This is consistent with the BAM, which states (under Section 4.2 (point 3)) "Assessors must not identify native vegetation as a derived PCT in the BioNet Vegetation Classification. Assessors must identify the original PCT from which the derived PCT has developed".

The description of the grassland within the BDAR is consistent with the NSW Scientific Committee Determination (DPIE, 2021) for Cumberland Plain Woodland in the Sydney Basin Bioregion, a Critically Endangered Ecological Community (CEEC) under the *Biodiversity Conservation Act 2016* (BC Act). Native grasslands derived from PCT 849 have been identified as meeting requirements for classification as the CEEC and potential impacts (including SAIIs) and offset requirements for this zone are detailed within the BDAR. Given the very low vegetation integrity score within this condition class (i.e. VI 5.9), no ecosystem credits were required to offset Project impacts to grassland PCT 849.

Council has also requested that surveys for the Downy Wattle *Acacia pubescens* be incorporated into the implementation of the BMP for the Project. *Acacia pubescens* was targeted in the surveys for the BDAR. Given the plants conspicuous habit, the highly degraded nature of the Site, and the surveys completed to date, an appropriate level of survey effort for this species has been completed for the Project.

6.4.3.3 Management of riparian corridor vegetation

Wollondilly Council in their submission to DPIE requested that a Site specific BMP include provision for a Vegetation Management Plan (VMP) that incorporates the management of riparian vegetation (identified as PCT 835: Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion on Figure 5 of the BDAR).

Section 6.8.3 of the Modification Report includes a commitment from IMC to update the Appin Mine BMP prior to the commencement of construction. The BMP already includes measures to protect and manage important biodiversity values. A specific VMP for the Project is not considered necessary.

6.5 Water resources

6.5.1 Submissions

6.5.1.1 Public and organisation submissions

One public submission was received regarding the potable water supply of the Project. The submission suggested that IMC supply potable water to properties neighboring the Site. Several public submissions raised concerns in relation to the generation and removal of wastewater from the Site.

6.5.1.2 Agency and Council submissions

Wollondilly Shire Council requested that DPIE seek detail on the onsite sewerage management system and the EPA noted that any such wastewater management system would require an application to vary the Mine's current EPL. Council further noted that the Project would be expected to adhere to the objective that it would have 'no adverse impact from development on the condition of water sources'.

Two specific submissions were received by the EPA and Wollondilly Shire Council in regard to the potential surface water and groundwater impacts of the Project. Council also noted its concern relating to the adequacy of the Appin Mine Surface Water Management Plan to manage the surface water impacts of the Project.

The DPIE Water and the Natural Resources Access Regulator (NRAR), requested further information relating to the proposed augmentation of the water supply infrastructure at Ventilation Shaft 6 and noted recommendations for the undertaking of works within waterfront land.

6.5.2 Key aspects

In consideration of the submissions described above, responses to the following key aspects are provided below:

- Water supply.
- Effluent and wastewater.
- Surface water management.

Submissions relating to the Groundwater Assessment are addressed in Section 6.2.3.5 of this report.

6.5.3 Response

6.5.3.1 Water supply

An application has been made to Sydney Water for the extension of the Menangle water supply network to create a reliable supply of potable water to the Site for the operational phase of the Project. There is no provision within that application or any future agreement with Sydney Water for South32 to supply potable water to surrounding properties.

IMC is committed to investigating the capture and on-site use of rainwater during the detailed design of the Project, to minimize potable water demand.

In relation to the augmentation of existing water supply to the Project, the Project Description (Section 3.7) of the Modification Report included reference to the minor upgrade or augmentation to the existing tanks, pipeline and standpipe (and associated infrastructure) at the Ventilation Shaft No.6 (VS6) site. As described in Section 3.7.8 of the Modification Report the upgrade is required to facilitate supply of construction water for the Project.

The scope of work for the upgrade includes installation of an overhead gravity tank, which will be fed from the existing tanks at VS6 via a new water supply line and electric pump. A truck turn around bay will also be established on the existing hard stand, to allow safe access for water carts to the gravity tank. The proposed upgrade would be located wholly within the existing Appin Mine Approval Project Area at the VS6 site. The works are minor and involve changes to already approved and existing development.

The proposed upgrade is not anticipated to generate any additional environmental impacts to what has been assessed in the Modification Application. The Traffic Impact Assessment (Appendix D of the Modification Report) includes assessment of Project vehicles on the Menangle Road route and at the VS6 site access point. The upgrades would be undertaken during standard construction hours,

consistent with the Modification Application, and no sensitive receivers are identified to be impacted by the temporary construction works. The proposed upgrade will occur on land that is existing hardstand or concrete, and as such no vegetation impacts are proposed. The environmental impacts of the proposed upgrade are considered to have been adequality assessed in the Modification Application.

6.5.3.2 Effluent and wastewater

The Modification Report notes the following, which address the submissions on this matter:

- Sewerage wastewater would be processed onsite at a sewerage treatment plant. Effluent would then be spray irrigated onto a field at the Site (see indicative location in Figure 2-1 of this report).
- The irrigation spray field will be designed, during the detailed design phase of the Project, in accordance with conditions set out in the EPL, which will be amended.
- The spray irrigation field would be located away from Foot Onslow Creek and appropriately vegetated (i.e. vegetation that is suited to the application of effluent).
- Irrigation rates for the spray field would be at appropriate levels for the soil type; this will be assessed during the detailed design phase of the Project.

Further, the Project sewerage treatment facility would be connected to a centralised sewerage system, should one with sufficient capacity become available in the area during the life of the Project.

6.5.3.3 Surface water management

The Appin Surface Water Management Plan will be updated, specific to the Project as stated in the Modification Report for the Project. Importantly, updating the plan to the specific requirements of the Project must take into consideration the practical elements of construction activities that will be defined in association with the shaft sinking contractor. Specific to this matter the Modification Report states:

Detailed processes for management of construction water will be developed during detailed design in conjunction with the shaft sinking contractor and in accordance with established surface water management processes detailed in the Mine Surface Water Management Plan. The shaft sinking process water tanks or ponds will be designed and managed with adequate reserve freeboard for a significant storm event [Section 3.7.3.6].

and,

During the operational phase, potential surface water and soil impacts at the Site will be managed in accordance with the existing Appin Mine Water Management Plan, which will be updated to incorporate any site-specific mitigation measures. Furthermore, discharge from the Site will be conducted in accordance with conditions set in the EPL, which will be amended as part of the Project [Section 6.7.3].

Works undertaken within waterfront land would be undertaken to minimise harm to the waterfront land and the watercourse, in consideration of the NRAR Guidelines. The statement of commitments included in the Modification Application [Attachment 1 of the Modification Report] notes:

Stormwater runoff, soil and erosion control measures will be managed in accordance with guidelines detailed in the publication Soils and Construction, Volume 1, 4th Edition and Controlled Activities on Waterfront Land. Guidelines for Laying Pipes and Cables in Watercourses on Waterfront Land, 2012, where relevant. Water controls will be employed as per the applicable project assessment or management plan documentation.

6.6 Noise

6.6.1 Submissions

6.6.1.1 Public and organisation submissions

A number of submissions were received from members of the public relevant to the potential noise impacts of the Project including construction, operational and traffic noise. Several submissions related to traffic noise increases at shift change times when traffic volumes entering or leaving the Site will be concentrated.

Several public submissions also provided comment on the need for noise monitoring throughout both the construction and operational phases of the Project.

6.6.1.2 Agency and Council submissions

The EPA and Wollondilly Shire Council made submissions regarding the potential noise impacts of the Project on surrounding sensitive receivers. The EPA recommends post approval documentation in the form of a Noise Management Plan and Blast Management Strategy be prepared. The Wollondilly Shire Council raised concerns regarding impacts related to blasting out of hours and recommended this be restricted.

6.6.2 Key aspects

In consideration of the submissions described above, responses to the following key aspects are provided below:

- Construction noise.
- Operational noise.
- Traffic noise.
- Blasting noise.
- Monitoring of noise.

6.6.3 Response

6.6.3.1 Construction noise

Public submissions raised concerns relating to the noise exceedances (and generally noise generation) during the construction phase of the Project. Section 5.2.2 of the Noise and Vibration Impact Assessment (NVIA) undertaken for the Modification Report (Appendix B of the Modification Report) notes that the modelled construction noise associated with each of the construction activities is a worst case scenario as it assumes all equipment that may generate noise during a construction activity is operating simultaneously, which will not always be the case. Specifically it states:

The activity sound power is considered to represent the typical worst-case level in a given 15-minute period. It is important to note that this sound power level is unlikely to be sustained at such a level for the duration of the activity. As a result, construction noise emissions during many 15-minute periods will be at lower levels.

Further, the construction equipment sound power levels, and the construction activity noise assessment (Table 24 of the NVIA, Appendix B of the Modification Report) assumes noise generation without any noise mitigation in place. Under those conditions, the NVIA (Appendix B of the Modification Report) concludes that:

- *Noise levels associated with construction activities during standard hours are predicted to comply with the NML[3] at sensitive receivers during all proposed activities except for the civil works, shaft sinking without acoustic sheds, and intersection works;*
- *During the proposed civil works, noise levels are predicted to exceed the NML at R2 and R3 by 5 dBA and 1 dBA, respectively;*
- *During shaft sinking without an acoustic shed, noise levels are predicted to exceed the NML at R2 and R3 by up to 5 dBA and 1 dBA, respectively, and,*
- *During the proposed intersection works, noise levels at R2 are predicted to exceed the NML by up to 4 dBA.*

Section 5.3.3 of the NVIA (Appendix B of the Modification Report) and Section 6.3 and Table 6-12 of the Modification Report outline a range of construction noise mitigation measures that could be implemented during construction activities. The proposed controls will incorporate best management practices and ongoing assessment and review of the effectiveness of controls (adaptive management), as suggested in the EPA submission. IMC is also committed to developing a Project specific Construction Noise Management Plan, which will be prepared prior to the construction of the Project and include all necessary construction noise management and mitigation measures. This will include noise monitoring, which will be undertaken to provide reliable and representative monitoring of noise impacts associated with the Project. Further information is provided in Section 6.6.3.5.

Further, daytime construction hours are proposed for all construction activities except ventilation shaft sinking activities which are proposed to occur 24 hours a day, 7 days a week. In order to achieve the required OOH NMLs, the NVIA proposed the potential use of acoustic sheds. In Section 5.2.1 of the NVIA (Appendix B of the Modification Report), it is stated that OOH shaft sinking would not occur prior to the construction of the acoustic shed(s), unless the relevant construction NMLs are met.

The detailed design phase of the Project will incorporate design innovation brought to the Project by the shaft sinking contractors. IMC will work with the contractor to ensure that the final noise mitigation mechanism employed for the Project will ensure that the relevant NMLs can be met during OOH activities. The DPIE, EPA and potentially impacted residents will be consulted in regard to the final design of the proposed noise mitigation measures.

IMC is proposing out of hours construction activities as one of the mechanisms for reducing the duration of the Project construction schedule. In the event that shaft sinking activities could not be undertaken 24 hours a day, 7 days a week, it is estimated that the construction schedule for the shaft sinking phase of the Project would increase by approximately 30%.

6.6.3.2 Operational noise

Several public submissions raised concern relating to the generation of noise from the Project during the operational phase.

Section 3 of the NVIA (Appendix B of the Modification Report) assesses noise for operational infrastructure including the ventilation fans, substation and the Mine access activities. Similar to the construction noise assessment, the operational noise impact assessment considered all operational activities concurrently operating to generate a predicted maximum noise level from the Site. The NVIA

[3] Noise Management Levels

concluded, based on the relevant guidelines, that operational noise from the Project will comply with Project noise trigger levels at all receivers.

Further the NVIA modeled potential low frequency noise impacts and potential sleep disturbance (Section 3.4.3 and Section 3.4.4 respectively) from the operational phase of the Project. The assessment concluded that low frequency noise and sleep disturbance parameters will not exceed maximum noise trigger levels at any receiver.

Notwithstanding the outcomes of the NVIA, IMC is committed to investigating further noise mitigation measures during the detailed design phase of the Project that could further limit operational noise emanating from the Site.

Examples of this will include reducing noise from winder cage movement signaling. Typically, winder alarms are required to sound in the immediate vicinity of the winder cage before the cage moves up or down the shaft, which is a key safety requirement for the operation of the winder. The detailed design will consider how the winder alarm design can ensure the necessary audible alarm is directed in the immediate vicinity of the winder cage and contained within the relevant buildings to avoid noise spill. Visual signals will also be investigated (lights etc.).

Attachment 1 of the Modification Report (the Statement of Commitment for Surface Projects) outlines IMC's commitment to undertake noise monitoring as per the relevant Project assessment, document or management plan. The Appin Mine Noise Management Plan will be reviewed to incorporate the operation of the Site in consultation with DPIE and noise monitoring required by that Plan will be undertaken as appropriate.

6.6.3.3 Traffic Noise

Section 4 of the NVIA (Appendix B of the Modification Report) addresses traffic noise (Road Noise Assessment) in accordance with the *NSW Road Noise Policy* (RNP). The assessment concluded that the predicted road noise levels associated with the Project will comply with the RNP impact assessment criteria.

This Submissions Report notes the particular concern relating to increased traffic noise as a result of shift changeover times at night during the operational phase of the Project. The NVIA (Appendix B of the Modification Report), specifically addresses this matter in Section 4 of that assessment. The NVIA notes that the *NSW Road Noise Policy* states:

"For existing residences and other sensitive land uses affected by additional traffic on existing roads generated by land use developments, any increase in the total traffic noise level should be limited to 2 dB above that of the corresponding 'no build option'."

The NVIA, established that during the operational phase of the project, road noise would increase by 0.6 dB at night (between 10.00pm and 7.00am) compared with the 'no build scenario'. This increase in road traffic noise is well within the increase limit of 2dB as noted by the *Road Noise Policy.* IMC will implement best management practice, including all reasonable and feasible noise mitigation measures to minimise road traffic noise generated by the Project.

Further, IMC has developed a Drivers Code of Conduct (DCOC) which is in operation at its other Sites. Section 6.1 of the Appin Mine Traffic Management Plan outlines IMC's approach to the Appin Mine's drivers code of driver conduct. It states:

The DCOC is an integral part of the traffic management system. The monitoring of compliance against the DCOC occurs both internally (via operational employees) and externally (via the Community Call Line). Breaches of the DCOC are followed up with the person or contract company involved and recorded in the event reporting system.

Section 6.3 of the Appin Mine Traffic Management Plan outlines IMC's approach to receiving any complaints from the community in regard to the Mine's driver behavior. It states:

Reactive traffic issues related to Appin Mine and associated logistics will be identified by members of the local community. The 24-hour community call line (1800 102 210) and email address (illawarracommunity@south32.net) allows the local community to provide feedback on these issues.

Section 7.1 of the Appin Mine Traffic Management Plan outlines IMC's approach to any community complaints and dispute resolution. It states:

All traffic complaints and enquiries received in relation to Appin Mine will be managed in accordance with the Handling Community Complaints, Enquiries and Disputes Procedure. Upon receipt of a community complaint, preliminary investigations will commence as soon as practicable to determine the likely cause of the complaint. An initial response will be provided to the complainant within 24 hours of the complaint being made, with a follow up response being provided as soon as practicable once a more detailed investigation is complete.

A summary of all complaints received during the reporting year is provided as part of the Annual Review. A log of complaints is also maintained on the South32 website at:

https://www.south32.net/our-business/australia/illawarra-metallurgicalcoal/documents.

Finally, Section 7.2 of the Appin Mine Traffic Management Plan outlines IMC's approach to any non-compliance with the DCOC, corrective action management and preventative action planning. It states:

Events, non-compliances, corrective actions and preventative actions are managed in accordance with the Reporting and Investigation Standard and Environmental Compliance/Conformance Assessment and Reporting Procedure. These procedures, which relates to all IMC operations, detail the processes to be utilised with respect to the event reporting and identification of non-conformances, the application of appropriate corrective action(s) to address non-conformances and the establishment of preventative actions to avoid non-conformances. The key elements of the process include:

- *identification of non-conformance and/or non-compliances:*
- *recording of non-conformance and/or non-compliance in G360[4];*
- *evaluation of the non-conformance and/or non-compliance to determine*
- *specific corrective and preventative actions;*
- *corrective and preventative actions to be assigned to responsible persons*
- *and entered into G360; and*
- *management review of corrective actions to ensure the status and*
- *effectiveness of the actions.*

Non-compliances with transport related criteria will be reported to all relevant agencies via the Annual Review

IMC is committed to a very high level of compliance to driver behavior and has an established culture of good driver behavior, compliance with a DCOC and behavior monitoring, management and reporting.

6.6.3.4 Blasting noise

IMC has committed to preparing a Blast Management Strategy, which will be prepared prior to any blasting activities, in consultation with relevant stakeholders and reviewed by a suitably qualified and experienced person. Further detail on the Blast Management Strategy can be found in Section 3.7.3.4 of

[4] G360 is IMC's Event Reporting System.

the Modification Report. Blasting will be monitored in accordance with Australian Standards (AS) AS 2187.2–2006.

6.6.3.5 Noise monitoring

IMC has committed to developing a Project specific Construction Noise Management Plan and updating the existing Appin Mine Noise Management Plan for the operational phase of the Project. These plans will include provision for noise monitoring, however the precise detail of the monitoring program will be defined in consultation with the DPIE and EPA.

One the basis of noise monitoring undertaken at other IMC sites, the Noise Management Plans are likely to include provision for:

- An automatic monitoring system, where data can be uploaded to a central server.
- Seeking feedback from potentially affected receivers.

The objectives of the monitoring will be to:

- Measure noise levels experienced by nearby residential receivers.
- Assess the effectiveness of noise controls.
- Measure Project related noise levels.
- Detect any adverse changes in construction noise.
- Acquire sufficient and reliable data to inform the assessment of compliance with Project noise criteria.

Noise monitoring equipment would be operated for diagnostic purposes, providing data for internal assessment of noise and potential impacts from construction and operations. The data can also be used for investigation of any community complaints.

Specifically, in relation to the use of controlled blasting in shaft construction activities, the data and feedback collected during Phase One[5] of the shaft construction would be used to review and revise the Blast Management Strategy prior to Phase Two[6] of shaft construction.

Attachment 1 of the Modification Report (the Statement of Commitment for Surface Projects) outlines IMC's commitment to undertake noise monitoring as per the relevant Project assessment document or management plan.

[5] Phase 1: Construction blasting conducted during standard construction hours during the early stages of shaft construction when activities are at or near to the surface.

[6] Phase 2: Construction blasting conducted 24 hours per day, seven days per week once shaft construction has progressed to a depth where construction related disturbance can be managed.

6.7 Air quality and greenhouse gas

6.7.1 Submissions

6.7.1.1 Public and organisation submissions

A number of submissions were received from members of the public relevant to the potential air quality and greenhouse gas impacts of the Project. Several public submissions raised concerns in relation to airborne particles impacting their tank water supply.

Submissions were also received regarding potential air quality impacts during the construction phase and operational phase. Requirements for air quality monitoring were also noted.

6.7.1.2 Agency and Council submissions

The EPA and Wollondilly Shire Council made submissions on the Project regarding the potential air quality impacts of the Project on surrounding sensitive receivers. Submissions also addressed odour management considerations and sought clarification on fugitive emissions.

6.7.2 Key aspects

In consideration of the submissions described above, responses to the following key aspects are provided below:

- Air quality during construction and operational phases of the Project.
- Air quality monitoring.
- Odour management.
- Fugitive emissions.

6.7.3 Response

6.7.3.1 Air quality during construction and operational phases of the Project.

A comprehensive Air Quality and Greenhouse Gas Assessment of potential air quality impacts associated with the Project was in accordance NSW EPA (2017) *Approved methods for the modelling and assessment of air pollutants in New South Wales* (see Appendix C of the Modification Report).

The assessment concluded that neither the construction or operational phases of the Project would result in exceedance of NSW EPA air quality impact assessment criteria for incremental or annual averages of PM_{10}, $PM_{2.5}$, Total Suspended Particles (TSP) or deposited dust at any assessment location (receiver).

Section 6.4.3 of the Modification Report states that relevant environmental management plans will be prepared for the Site for both construction and operation. Specifically, the plans will address the following:

- Air quality criteria for the Project.
- Appropriate and effective, best practice, dust control measures during the construction phase.
- Complaints and dispute resolution processes.
- Non-compliance, corrective action, and preventative action protocols.
- Provision for reporting exceedances due to operational activities or extraordinary events to both NSW Government regulators and the community.

- Entitlements for impacted landowners.
- Ordinary performance reporting and independent environmental auditing requirements.

6.7.3.2 Air quality monitoring

As noted above, the Air Quality and Greenhouse Gas Assessment (Appendix C of the Modification Report) for the Project concluded that the Project would not result in exceedances of NSW EPA air quality impact assessment criteria[7] at any assessment location (receiver), during construction or operational phases. As a result, the assessment concluded that air quality monitoring for the Project was not recommended and consequently, IMC did not include air quality monitoring in the Project's statement of commitments.

In consideration of the submissions and following ongoing consultation with the community and also the MAP, IMC is committed to the development of a Site air quality monitoring program for the construction phase of the Project in consultation with DPIE. This monitoring program would be documented in the relevant Construction Management Plan.

Although the precise nature of the air quality monitoring program is yet to be determined, IMC anticipates that the program will include similar strategies for monitoring air quality found within the Appin Mine Air Quality and Greenhouse Gas Management Plan, such as:

- Use of automated air quality monitors.
- Visual inspections and audits.
- Ongoing consultation with potentially affected receivers.

Air quality monitoring equipment would be operated for diagnostic purposes, providing data for assessment of air quality and potential impacts from operations. Analysis and provision of results from dust monitoring apparatus will be undertaken by appropriately qualified laboratories, personnel, or subject matter experts.

The existing Appin Mine Air Quality and Greenhouse Gas Management Plan will be updated to include the arrangements for operational monitoring for the Site, ahead of the operational phase.

6.7.3.3 Odour

An odour assessment was undertaken as part of the Air Quality and Greenhouse Gas Assessment for the Project which is presented in Section 6.4.2 and Appendix C of the Modification Report. Potential odour impacts are evaluated by modelling emission of odour and hydrogen sulphide (H_2S). The Air Quality and Greenhouse Gas Assessment modelling concluded that that there are no exceedances of the most stringent odour and H_2S impact assessment criteria at all assessment locations and for the two flow scenarios modelled (based on ventilation requirement milestones for 2025 and 2033).

One submission raised a concern that the predicted methane emissions from the ventilation shafts would result in odour impacts at nearby residences. Methane itself is an odorless gas, however the concept of odour impacts at nearby residences (receivers) is a matter that is regulated by the NSW EPA.

IMC notes the submission from the EPA regarding a specific Odour Management Plan for the Project. Odour management and monitoring for the Appin Mine is incorporated into the Air Quality and Greenhouse Gas Management Plan. Accordingly, the Air Quality and Greenhouse Gas Management Plan will be updated to incorporate odour management for the Project.

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[7] PM_{10}, $PM_{2.5}$, Total Suspended Particles (TSP) or deposited dust.

6.7.3.4 Fugitive emissions

Fugitive emissions in the context of underground coal mining are generally taken to be coal seam gas emissions from the disturbance of the coal seam and can include pre-drainage, mining activities liberating methane in the mine ventilation air, goaf drainage and post-mining fugitive releases.

Section 1.4.3 of the Modification Report states that the Project will not result in an increase in coal production beyond that which is already approved (and assessed for Greenhouse Gas emissions) for the Mine and therefore no significant change to disturbance of the coal seam will result. It follows that Greenhouse Gas emissions from the mining process will not therefore increase as a result of the Project.

6.7.3.5 Rainwater tank water quality impacts

The Air Quality and Greenhouse Gas Assessment (Appendix C of the Modification Report) prepared for the Project included discussion on rainwater tanks, as this concern had been raised during consultation with the MAP and landholders.

As noted in Section 8.4 of the Air Quality and Greenhouse Gas Assessment (Appendix C of the Modification Report), the predicted deposited dust levels for the Project are less than 5% of the relevant criterion for nuisance dust at all assessment locations. The assessment also notes examples of previous Australian studies which have shown that dust fallout at levels higher than this do not constitute a risk to locally collected drinking water. The predicted deposited dust levels for the Project are significantly lower than levels that would be observed close to open cut mining operations, such as the areas included in these studies.

As such, no adverse impact on water collected within rainwater tanks is expected from the Project.

6.8 Visual amenity

6.8.1 Submissions

6.8.1.1 Public and organisation submissions

A total of seven public submissions were received in relation to the potential visual amenity impacts of the Project. Four of those submissions relate to a single receiver location, 30 Finns Road Menangle. The submissions identify general visual amenity impacts, lighting and the height of the Project's headframe (headframe and winder tower) as being of specific concern in relation to visual amenity.

One of the public submissions was anonymous and therefore this Submissions Report cannot specifically respond to the visual amenity impacts relevant to the location of that submission. The final public submission is from a community member whose location is not known to IMC and therefore this Submissions Report cannot specifically respond to the visual amenity impacts relevant to the location of that community member.

6.8.1.2 Agency and Council submissions

Wollondilly Shire Council in their submission noted that the Council has prepared a Draft Scenic Landscapes Study. The submission notes that the draft Strategy contains recommendations for the landscape unit applying to the Site that is of relevance to the Project which is "*Ensure mining and extractive industry activities and infrastructure are well-screened from surrounding areas and the scenic river landscapes in particular. Ensure that screening is provided in a manner consistent with the natural landform and vegetation*". Council's submission notes that the proposed screening of the Site as described in the Modification Application is recognised as having consistency with this recommendation.

6.8.2 Key aspects

In consideration of the submissions described above, responses to the following key aspects are provided below:

- Visual amenity impacts at sensitive receiver sites.
- Headframe and winder tower height.
- Lighting (note a response to this matter is provided in Section 6.9)
- Viewpoints of the Site from nearby residential and public vantages.

6.8.3 Response

6.8.3.1 Visual amenity impacts at sensitive receiver sites.

IMC is aware of the potential visual amenity impacts of the Project on sensitive receivers (nearby residents) and the general public as they traverse Menangle Road or enter Menangle Road from the Finns Road Intersection.

Section 6.13 of the Modification Report provides the assessment of the Project's impacts on visual amenity generally, and also specifically in relation to two public vantage points and six nearby sensitive receiver locations. The visual amenity assessment in the Modification Report concludes that the Project will have a high-moderate impact to receivers R2 (310 Menangle Road, Menangle) and R3 (30 Finns Road, Menangle).

In response to the likely visual amenity impacts of the Project on both sensitive receivers and the travelling public, IMC proposed the following mitigation measures in the Modification Report:

1. Colour choices for visible structures that reduce the visual contrast between the structures and the surrounding visual environment.
2. Use of highly reflective materials will be minimised on the tallest structures on the Site and will be limited to those components that require reflective finishes for operational and safety purposes.
3. Emplacement of the shaft spoil in visual bunds surrounding the operational footprint of the Project.
4. Screen planting along the Site boundary and also on the visual bunds (where feasible and safe).
5. Screen planting at sensitive receiver locations with high-moderate impact in the direction of the views to the Project.
6. Appropriate lighting design to minimise light spill from the Site.

Screen planting along the boundary of the Site has commenced with a mixture of appropriate native screening species, in line with the Wollondilly LEP. The boundary planting location is considerate of existing infrastructure (such as the road and powerlines) and in anticipation of the proposed future Site infrastructure.

IMC has proactively engaged with sensitive receivers predicted to have a high to moderate visual amenity impact from the Project. At one sensitive receiver location, IMC has completed vegetation screen planting with a hedgerow of the resident's choice that will significantly screen the majority of infrastructure from the main viewpoints at the rear of the dwelling. At the other sensitive receiver location, options for screening have been presented for the resident's consideration. Consultation with both residents is ongoing.

IMC accepts that it will take some time before the vegetation matures and the full benefit of the screening is realised (either on the Site or at the location chosen by the sensitive receivers). IMC has initiated the

screening at the Site boundary and at sensitive receivers in order to minimise this duration as far as possible.

Subsequent to submission of the Modification Report, IMC have prepared further viewpoints (impressions) of the visual amenity of the Site from several residences and also from public vantage points towards the Site at various stages of screening plant maturity. These views are included in Figure VP - 1 to Figure VP - 21 in Appendix C. The location at which the viewpoints have been modelled is shown in Figure 6-1.

Finally, in relation to the screen planting at the boundary of the Site, IMC has given consideration to removing the row of roadside weed species (mainly African Olive) along Menangle Road in proximity to the proposed Site entrance, within the Menangle Road corridor. As noted in Figure VP - 18 to Figure VP - 21, removal of these roadside weed species prior to the boundary screen planting maturing will increase the visibility of the Site during the construction phase and in the early years of Site operations until the screen planting can mature. As a component of the ongoing consultation with Wollondilly Shire Council in relation to the design of the Site access, IMC proposes to consult with Council in order to ascertain their preference for removing the African Olive within the Menangle Road corridor.

6.8.3.2 Headframe and winder tower height

IMC acknowledges that the highest permanent structure associated with the Project will be the headframe and winder (HFW) tower located over VS7 during operations to support mine access. As noted above, the colour of the HFW tower will be chosen to minimise the visual contrast between the structure and the surrounding visual environment.

Further, minimising the height of the HFW tower was subject to specific consideration by IMC during the early planning stage of the Project. IMC intentionally limited the Project to a single deck stage design for the conveyance of personnel and material into and out of the underground mining environment. Further, IMC intentionally limited the winding capacity of the headgear to 15 tonnes (compared to 22.5 tonnes at Appin West Colliery) to minimise the height of the structure for this Project. Reducing the height of the structure further is limited by the requirement to house within it the stage, winder structure and safety equipment which secures the stage in place at the top of the open shaft.

IMC acknowledges that a structure on the Site with a height of 25 metres, is not insignificant. It is however considered to be the lowest height that the structure can be built to achieve the operational and safety requirements for the Project's intended purpose of conveying personnel and materials to the underground mining environment.

Figure VP - 2 to Figure VP - 7 in Appendix C provide indicative views of the Site, including the HFW tower once constructed, from the rear of the residence at 30 Finns Road, Menangle. The views are spread across different stages of the Project, with and without the screen planting at both the Site and the residence. The viewpoints show that at the completion of the construction of the HFW tower, and at the maturity of the vegetation screen that has been planted at the rear of the property, the view of the HFW tower will be obscured (but not at the horizon level).

IMC will continue to consult with the residents of this location to confirm the suitability of the selected screening material and will consider further design options on Site to further screen the line of sight of the HFW tower from the residence, where feasible. The remainder of the Site will be obscured by the screen planting on 30 Finns Road, Menangle when the plants at that property and also at the Site reach maturity (see Figure VP - 2 to Figure VP - 7).

6.8.3.3 Viewpoints of the Site from nearby residential and public vantages.

Figure 6-1 shows the location of the sensitive receivers in relation to the Site and the location of the updated viewpoints from nearby residential and public vantage points (Figure VP - 1 to Figure VP - 21 in Appendix C). Table 6-2 below describes the location of each of the updated viewpoints and the visual amenity mitigation in place as depicted in the artists impression of each view point at various stages of screen planting maturity.

Table 6-2 Location of the updated viewpoints and artist impressions of the visual amenity mitigation for the Project from those locations

Figure (see Appendix C)	Location and direction of view	Project Phase (indicative timing)	Visual amenity mitigation
Figure VP - 1	3 Finns Road, Menangle looking east to the Site	N/A	Nil, natural topographic features inhibit views to the Site
Figure VP - 2	30 Finns Road, Menangle looking east to the Site	Construction (2022)	No screen planting at residence and Site planting not yet visible
Figure VP - 3	30 Finns Road, Menangle looking east to the Site	Construction (2025)	No screen planting at residence and Site planting 3 years old
Figure VP - 4	30 Finns Road, Menangle looking east to the Site	Operation	No screen planting at residence and Site planting matured to full height
Figure VP - 5	30 Finns Road, Menangle looking east to the Site	Construction (2022)	Screen planting at residence 1.2m high
Figure VP - 6	30 Finns Road, Menangle looking east to the Site	Construction (2025)	Screen planting at residence 1.2m high and Site planting 3 years old
Figure VP - 7	30 Finns Road, Menangle looking east to the Site	Operation	Screen planting at residence 1.2m high and Site planting matured to full height
Figure VP - 8	Corner of Finns and Menangle Roads looking east to the Site	Construction (2022)	Site screen plants recently planted and mature existing trees retained
Figure VP - 9	Corner of Finns and Menangle Roads looking east to the Site	Construction (2025)	Site screen plants 3 years old and mature existing trees retained
Figure VP - 10	Corner of Finns and Menangle Roads looking east to the Site	Operation	Site screen plants 5 years old and mature existing trees retained
Figure VP - 11	Corner of Finns and Menangle Roads looking east to the Site	Operation	Site screen plants at maturity and mature existing trees retained
Figure VP - 12	From Menangle Road heading north with the Site south of the VP	Construction (2022)	Site screen plants recently planted
Figure VP - 13	From Menangle Road heading north with the Site south of the VP	Construction (2025)	Site screen plants 3 years old
Figure VP - 14	From Menangle Road heading north with the Site south of the VP	Operation	Site screen plants at maturity

Figure (see Appendix C)	Location and direction of view	Project Phase (indicative timing)	Visual amenity mitigation
Figure VP - 15	From Menangle Road heading south with the Site south of the VP	Construction (2022)	Site screen plants recently planted
Figure VP - 16	From Menangle Road heading south with the Site south of the VP	Construction (2025)	Site screen plants 3 years old
Figure VP - 17	From Menangle Road heading south with the Site south of the VP	Operation	Site screen plants at maturity
Figure VP - 18	From Menangle Road heading south with the Site south of the VP	Operation	Site screen plants 5 years old and weed species in road corridor left in-situ
Figure VP - 19	From Menangle Road heading south with the Site south of the VP	Operation	Site screen plants 5 years old and weed species removed
Figure VP - 20	From Menangle Road heading south with the Site south of the VP	Operation	Site screen plants at maturity and weed species in road corridor left in-situ
Figure VP - 21	From Menangle Road heading south with the Site south of the VP	Operation	Site screen plants at maturity and weed species removed

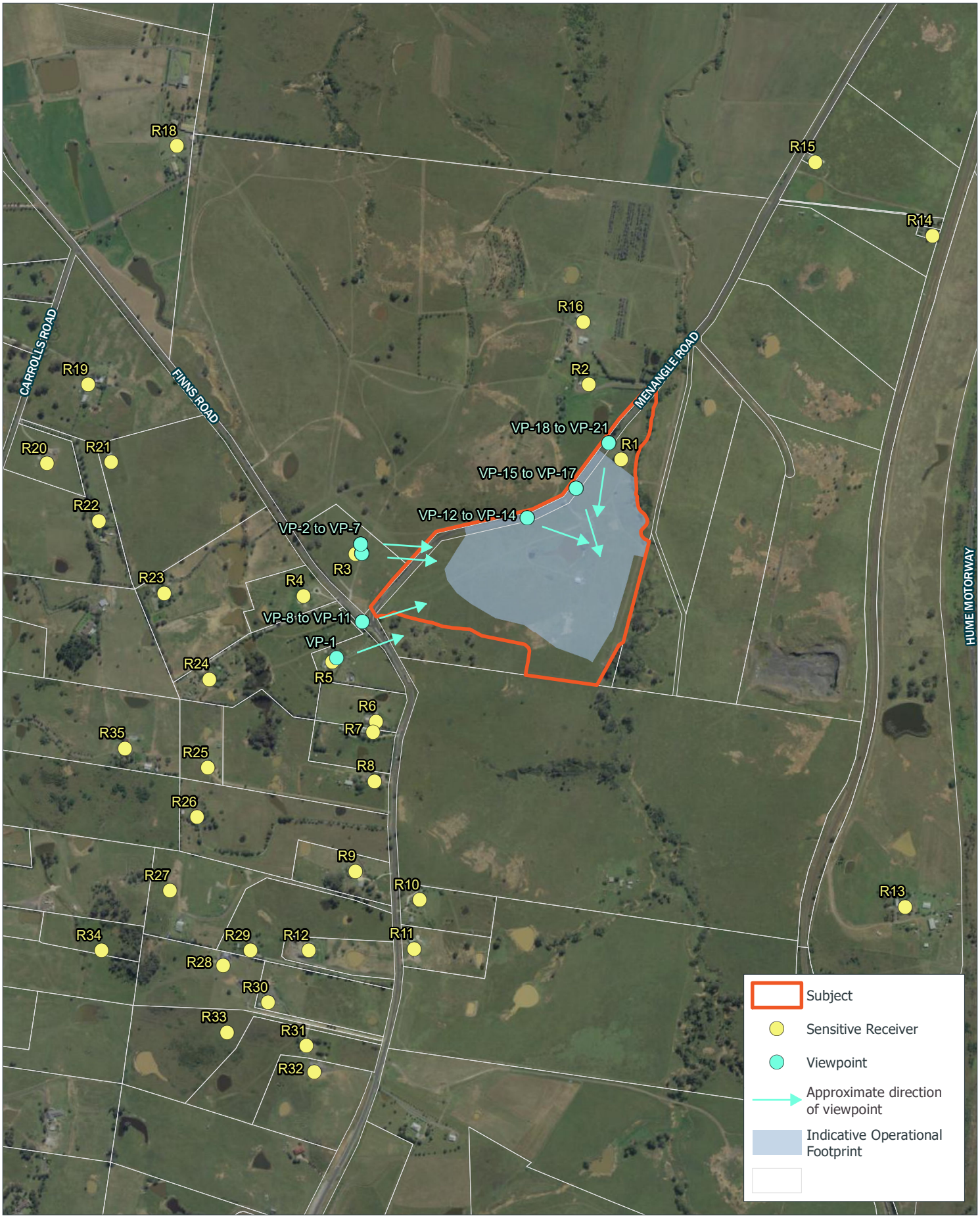

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FIGURE 6-1

Sensitive Receivers and Updated Viewpoint Locations

Appin Mine Ventilation and Access Project – Submissions Report

N

0 150 300

m

GDA 1994 MGA Zone 56

6.9 Lighting

6.9.1 Submissions

6.9.1.1 Public and organisation submissions

One public submission was received regarding the potential impact of the lighting for the Project on near neighbours to the Site, including the potential impacts of glare on visual amenity and the use of non-obtrusive lighting to minimise light spill.

6.9.1.2 Agency and Council submissions

No specific submissions regarding the lighting of the Site were received from agencies or local Councils.

6.9.2 Key aspects

In consideration of the submissions described above, responses to the lighting aspects of the Project are provided below.

6.9.3 Response

The Project will include permanent outdoor lights along the access road, carpark and operational areas which will be installed in accordance with the *Australian Standard 4282–2019 – Control of the obtrusive effects of outdoor lighting*. Night lighting is required to maintain safe working conditions and safe operation of the Project.

The Project will consider potential visual amenity impacts of lighting to neighboring properties and light spill during detailed design and prior to placement. The Project lighting will be mounted as required on and around structures and be directed towards the ground and inwards towards the Project Site. Light shading will be employed to minimise the spill of light into the surrounding area.

6.10 Traffic and transport

6.10.1 Submissions

6.10.1.1 Public and organisation submissions

A number of public submissions were received regarding the potential impacts of increased traffic as a result of the Project, including the potential safety issues of the location of the intersection, traffic noise, the number of car spaces and the number of heavy vehicle movements, in particular the concrete trucks through the night time period.

Traffic noise is addressed in Section 6.6.3.3 of the Submissions Report.

6.10.1.2 Agency and Council submissions

Submissions received form Transport for NSW and Wollondilly Shire Council highlighted concerns regarding the intersection design and construction, traffic counts used for modelling and heavy vehicle and transport routes. Transport for NSW supported the recommended Infrastructure Management Plan to enable the future development of the Outer Sydney Orbital Stage 1 (OSO1) with the proposed development and requested ongoing consultation.

6.10.2 Key aspects

In consideration of the submissions described above, responses to the following key aspects are provided below:

- Traffic counts used for modelling.
- Project intersection design and construction.
- Heavy vehicle and transport routes.
- Project car parking.
- Outer Sydney Orbital consultation.

6.10.3 Response

6.10.3.1 Traffic counts

A Traffic Impact Assessment (TIA) was undertaken for the Project (see Appendix D of the Modification Report). The traffic intersection counts for the principal intersections adjacent to the Project used in the TIA, were undertaken on Tuesday 20 October 2020.

As Menangle is a semi-rural environment, Tuesday is a representative weekday for AM and PM peak hours at locations that are not within shopping centre environments. The traffic counts were not able to be undertaken in 2019 as the scope of the Project was undefined at that time.

Traffic counts taken on 20 October 2020 are accurate and unaffected by reduced traffic volumes associated with COVID-19 restrictions as there were no COVID-19 lockdowns in Sydney, the Illawarra or adjoining regions of NSW during October 2020. Further, the NSW Covid-19 restrictions, other than social distancing, had already been relaxed by mid-October 2020. Further, any interstate restrictions that may have been in force during the traffic data collection period are not considered to impact the assessment as Menangle Road is a local traffic road and not likely to be used by interstate traffic.

The counting stations on Appin Road, south of King street (ID07750) and Picton Road, south of Macarthur Drive (ID 6179) are the closest counting stations to the Project and on roads similar to Menangle Road. The peak period volumes between 6am to 9am and 3pm to 6pm on a weekday (Tuesday) in a non-holiday period were compared for 2019 and 2020. This comparison found that the 2020 peak hour volumes were 5% - 7% lower than the 2019 peak hour volumes. This difference is within the normal variation that occurs in daily volumes where volumes on weekdays and in peak hours can vary by up to 10% on any given day.

The traffic modelling and traffic assessment examined a future 2035 scenario, where the base traffic volumes were increased by 30% from the 2020 traffic volumes. This analysis found that the principal intersections would operate at a Level of Service A or B operation in the future AM and PM peak hours, which represents a satisfactory to good operation, with adequate spare capacity.

It is the IMC's view that the traffic counts undertaken on 20 October 2020 for the TIA (Appendix D of the Modification Report) are representative of peak hour conditions, therefore, the analysis of the existing conditions and potential impacts of the Project as detailed in the report are accurate.

6.10.3.2 Project intersection design and construction (Site access)

The proposed intersection design will incorporate the following design features:

- Left turn auxiliary lanes (AUL) for Menangle Road for left turns into and out of the Project.
- A right turn bay (CHR treatment) on Menangle Road for right turns into the Project.
- Eastbound and westbound through lanes on Menangle Road.
- Be subject to Give Way control.

- Swept paths of the longest vehicles proposed for the Project.

The intersection will be designed and constructed in accordance with the AUSTROADS standards and in consultation with Wollondilly Shire Council and Transport for New South Wales. Further, the Site access and internal roads have been designed to B-double standards (even though B-double heavy vehicles are not proposed for use in the construction or operational phase of the Project) as a conservative measure to ensure sufficient capacity and road geometry for any limited heavy vehicle access to the Site.

6.10.3.3 Heavy vehicles and transport routes

The Project will utilise heavy vehicles, including semi-trailers (up to 19 metres) and rigid trucks, to deliver materials and equipment during the construction phase, with a number of special purpose vehicles, including over size and/or over mass vehicles required to deliver specialised equipment. The oversize vehicles will be required to obtain appropriate permits, including pilot and escort requirements.

The Project is expected to generate an estimated 240 vehicle movements daily (120 in and 120 out) during the peak construction period (a period of 6-8 weeks), with heavy vehicle deliveries between 11-13 vehicles per day. The construction of the Project is proposed to be undertaken in shifts over a 24 hour period, including night-time deliveries of concrete for the ventilation shaft construction.

The Project is expected to generate 24 heavy vehicle movements, 12 in and 12 out, per day during the operational phase of the Project. These heavy vehicle movements will be utilising Menangle Road to access the Project. Menangle Road is a regional Road between Picton Road and the Nepean River at Menangle. North of the Nepean River, Menangle Road is classified as a State Road. Heavy vehicles, including those proposed for the Project, do not require permits to travel on Menangle Road as they are classed as 'general access vehicles' in accordance with the Transport for New South Wales general access vehicles prescribed mass and dimension limits.

One public submission raised concerns relating to the increase of traffic that might be expected to occur across Broughtons Pass Weir and through Douglas Park Gorge. Neither of these roads are suitable for heavy vehicle movements to or from the Site. Further, a DCOC will be prepared for vehicles accessing the Site as part of the Traffic Management Plan. A Mine DCOC is already in place for the Douglas Park village. The purpose of the Project DCOC will be to minimise traffic impacts associated with the Project by including preferred travel routes to ensure unsuitable traffic routes are not utilised by IMC personnel, contractors and visitors attending the Site.

The submission from Wollondilly Shire Council recommends that construction of the ventilation shafts should not commence until a Certificate of Practical Completion for the site access intersection is issued by Council. The indicative project schedule (Table 3-5 of the Modification Report) proposes that site establishment, bulk earthworks, utilities construction, pre-sink of the shafts and the intersection upgrade are completed together as the first stage of the Project. The works are scheduled concurrently to reduce the duration of the schedule and the resulting impacts on the community and to prepare the site for the main shaft excavation period.

IMC appreciate that the intent of the recommendation is to ensure traffic is adequately managed during the construction phase, however such a requirement would delay and extend the duration of the overall construction period. Site intersection works will be completed as a matter of priority, and during the intersection construction, traffic management will be in place to ensure the road and primary site access for all construction work remains safe and serviceable for road users. IMC will continue to consult with Wollondilly Shire Council regarding the intersection upgrade and will seek the relevant approval under Section 138 of the *NSW Roads Act 1993* for the work.

6.10.3.4 Project car parking

The Project is proposed to have 212 car parking spaces, including two accessible parking spaces to accommodate workers and visitors. The provision of future additional car parking is expected to the provided on site, when required. The TIA assessed the Project based on employee/contractor and visitor numbers to the Project as Wollondilly Shire Council's Development Control Plan did not provide parking provisions for mining.

The working shift change over times between shifts 1 and 2 on maintenance weekdays represents the maximum parking demands during the operational phase of the Project. This is estimated to be 198 cars associated with the proposed workforce parking on site, approximately 116 cars from shift 1 and 82 from shift 2, allowing for five visitors, the total demand for car parking is estimated to be 203 car spaces.

Truck parking and loading areas will also be provided on site. All car parking spaces, internal roads, truck parking and loading areas will be designed and constructed to Australian Standards (AS2890.1, AS2890.2 and AS2890.6) as appropriate. The provision of 212 car parking spaces, including two accessible parking spaces, is considered adequate for the Project.

IMC will prepare a Traffic Management Plan for the Project that will incorporate traffic management requirements for the construction and operational phase of the Project.

6.10.3.5 Outer Sydney Orbital (OSO1)

In accordance with the response from Transport for NSW and Section 6.15.2 of the Modification Report, it is proposed that a specific Infrastructure Management Plan would be developed in consultation with Transport for NSW. Development of the plan would be ongoing as detailed design of the OSO1 progresses, should the OSO1 corridor be preserved within the operational boundary of the Site. Further, IMC will continue to consult with Transport for NSW during the planning and development of the Project.

6.11 Heritage

6.11.1 Submissions

6.11.1.1 Public and organisation submissions

One submission relevant to European Heritage of the Project area was made by a member of the public, with concerns of the potential impact to the Historic Heritage values of the area. No submissions from the public regarding the Aboriginal cultural heritage assessment were received.

6.11.1.2 Agency and Council submissions

One specific submission regarding the care and control agreement in the Aboriginal Cultural Heritage Assessment Report (ACHAR) was received by Heritage NSW. Heritage NSW recommended amendments to the ACHAR regarding the process for the reburial of Aboriginal objects in NSW.

6.11.2 Key aspects

In consideration of the submissions described above, responses in regard to European Heritage and Aboriginal Cultural Heritage are provided below.

6.11.3 Response

6.11.3.1 Aboriginal Cultural Heritage

An addendum to the existing Aboriginal Cultural Heritage Assessment report in the form of a letter is supplied in Appendix D of this Submissions Report. The letter notes that all advice and recommendations relating to a care and control agreement should be replaced with the following commitment which is correctly informed by Requirement 26 of the DECCW 2010 *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*.

Four Aboriginal objects associated with registered Aboriginal cultural heritage site Bulli Site 7 (AHIMS ID#52-2-3687) will be returned to the Site and the following will be completed:

- A full catalogue, including photographic and drawn records for diagnostic stone artefacts, must be made.
- The catalogue must be in printed form, but may also include an electronic database in the form of a table containing all records.
- All stone artefacts must be either individually bagged or bagged in appropriate and identifiable units (e.g. excavation or collection units) that can be referenced back to the catalogue.
- The stone artefacts will be stored in good quality, double-bagged plastic zip-lock bags.
- The bags must be externally labelled using permanent marker, and an 'independent' label on robust material (e.g. tyvek) written with permanent marker must be placed inside each bag.
- The collection will be placed in a suitable impervious and permanent container, which must be labelled as above, or engraved.
- A full record of the final location of the collection will be made, including: – grid coordinates derived as set out in Requirement 8 – a site plan or mud map referring to permanent features – depth of burial, if buried – full photographic record of the disposition.
- The record will be submitted to AHIMS with a site update record card for the site(s) in question.

Consultation with Heritage NSW subsequent to the receipt of submissions on the Project have confirmed that the proposed approach is consistent with Heritage NSW recommended ACH management protocols for the proposed Modification.

Further to this the addendum letter would be submitted to the Registered Aboriginal Parties for the Project to notify them of this addendum and the reasoning for its development during the Exhibition period.

6.11.3.2 Non-Aboriginal Heritage

As outlined in Section 6.10 of the Modification Report, European Historical Heritage was assessed in accordance with the following guidelines:

- *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (2013).*
- *Assessing Heritage Significance (Heritage Office, 2001).*
- *Assessing Significance for Historical Archaeological Sites and 'Relics' (Heritage Council, 2009).*

The Project Site is part of the regional cultural landscape associated with early 19th Century settlement and the development of large rural estates such as South Camden. As part of the Historical Heritage Assessment, an analysis of historical resources was undertaken and found that the Project Site has remained largely unchanged from first European settlement and farming of the area. Little to no development has occurred associated with the identified historical phases. It is an example of an evolved and continuing rural farming cultural landscape. The evolution of the Project Site though vegetation

clearance, lot division, the construction of farming infrastructure, grazing and continued maintenance of internal and external boundaries are all contributory factors to the cultural landscape.

A Site inspection was undertaken on 7 December 2020 and between 1-12 February 2021, with the Project Site not found to contain heritage items and having a very low to low potential to contain archaeological resources associated with the identified historical phases. The Site inspection indicates that it likely continued to support cattle grazing to the current period.

The Project Site is not listed as a heritage item, nor were there any previously undiscovered heritage items associated with the Historical heritage of the surrounding areas.

On the basis of this assessment, the Project Site does not meet the criteria for local or State Heritage significance. Despite the assessment findings, an unexpected finds protocol will be implemented in the unlikely event that archaeological deposits are discovered. The unexpected finds protocol will be included within the Appin Mine Heritage Management Plan which would apply to the Project.

6.12 Rehabilitation

6.12.1 Submissions

6.12.1.1 Public and organisation submissions

Submission by members of the public relevant to rehabilitation of the Project include provisions for costs of rehabilitation of the Project site, timing of rehabilitation and confirmation of the land being returned to its current rural state.

6.12.1.2 Agency and Council submissions

No specific submissions regarding the rehabilitation of the Project Site were received from Agencies or the Local Councils.

The Resources Regulator has provided comments that require the proponent to comply with the conditions of the authorisations, including rehabilitation activities, prior to the commencement of the Project.

6.12.2 Key aspects

In consideration of the submissions described above, responses regarding rehabilitation are provided below.

6.12.3 Response

The Appin Mine Mining Operations Plan (MOP), including the Closure Plan address the rehabilitation requirements and objectives for the whole of the Appin Mine. Based on the Mine Approval, the operational phase of the Project is anticipated to continue until 2041, followed by the rehabilitation phase which is expected to occur over a five year period.

If approved, rehabilitation and closure requirements for the Project will be incorporated into the Appin Mine MOP, in consultation with relevant stakeholders, including the NSW Resources Regulator.

Rehabilitation objectives for the Project are provided in Section 3.7.12 of the Modification Report. The final land use is proposed to be consistent with the current and surrounding land use, however, the proposed final land use will be reviewed over the mine life in consultation with government and the

relevant, future, stakeholders and landowners. IMC is committed to its rehabilitation obligations and its overarching objectives for rehabilitation, remediation and Site closure ,which are to provide:

- Safe landforms suitable for future land uses as agreed with relevant stakeholders, including landholders
- Landforms that are stable in the long term without significant additional management being required post-relinquishment
- No unacceptable impacts to people and the environment through pollution or other changes to environmental factors
- A positive legacy for the community post-closure.

South32's company-wide closure standard requires all South32-controlled operations to maintain closure plans, which address closure criteria and landuse. This includes requirements for the rehabilitation of disturbed areas, decommissioning of infrastructure, remediation of contaminated sites, treatment and disposal of wastes, land use options, and post-closure monitoring and management. Consideration is also given to economic transitions at mine closure and supporting sustainable communities.

6.13 Submissions beyond the scope of the Project

6.13.1 Submissions

6.13.1.1 Public and organisation submissions

Public submissions considered by IMC to be beyond the scope of the Project included:

- Subsidence impacts from longwall mining operations, and compensation for those impacts.
- Donations of landholdings to the community when no longer required.
- Conditioning (fixing) the location corridor of the M9 Orbital (OSO1) as a component of the current Project.
- Economic viability of the mine.

6.13.1.2 Agency and Council submissions

Few agency submissions are considered beyond the scope of the Project. The matters raised below have been addressed herein.

Several agencies supplied submissions seeking ongoing consultation with IMC and/or the opportunity to review draft conditions of consent or post approval documentation. IMC will continue to engage with relevant agency stakeholders throughout the life of the Project. Formal involvement in the review of draft consent conditions and the review of post approval documentation are matters for the DPIE.

Wollondilly Shire Council made a submission regarding the recommendation for the Air Quality Assessment to be independently reviewed to ensure adequacy and transparency in responding to community concerns raised. IMC has supplied a compliant and accurate Air Quality and Greenhouse Gas Assessment in the Modification Report. The request for a peer review of the Air Quality and Greenhouse Gas Assessment is considered unnecessary as the potential impacts to sensitive receivers is anticipated to be minor and IMC has not had a request from DPIE regarding the peer review of any technical assessment for the Project.

6.13.2 Key aspects

In consideration of the submissions described above, responses in regard to issues beyond the scope of the Project are provided below:

- Subsidence impacts and compensation.
- Donation of landholdings to the community.
- Conditioning the location of the proposed OSO corridor.
- Economic viability of the Mine.

6.13.3 Response

6.13.3.1 Subsidence impacts and compensation

As outlined in the Modification Report in Table 6-35, Section 6.14, the Project will not result in subsidence impacts and further, subsidence impacts associated with the Mine Approval were subject to assessment and approval in the Mine Approval. The Project will not result in any additional subsidence impacts beyond that described in the BSO Project Environmental Assessment (prepared for the Mine Approval).

6.13.3.2 Donations of landholdings to the community

One public submission stated that landholdings no longer required by IMC for mining purposes should be donated to the community.

As noted in Section 6.12.3 South32's company-wide closure standard requires all South32-controlled operations to maintain closure plans which also includes transition of landholdings at mine closure. The current Mining Approval permits IMC to mine until 2041. Determining the transition of IMC's landholdings at this time is premature and outside of the scope of the Modification Application and Submissions Report.

6.13.3.3 Conditioning the location of the proposed OSO1 Corridor

Conditioning the location of the proposed OSO1 Corridor is beyond the scope of the Project. IMC is not the proponent of the OSO1.

6.13.3.4 Economic viability of the Mine

Several public submissions raised concerns about the economic viability of the Mine.

The economic viability of the Mine was assessed as part of the Mine Environmental Assessment. The current Project was anticipated in the Mine Environmental Assessment and does not alter the economic viability of the Mine.

7 UPDATED EVALUATION OF PROJECT MERITS

Following consideration of the submissions received, a detailed Submissions Report to address the issues raised in agency and public submissions has been prepared. This process has included undertaking additional assessment, providing clarifications and, where relevant, explaining the findings of the technical studies that have been completed as part of the Modification Report in order to address the issues raised. The outcomes of this response to submissions process have not changed the overall assessment of the merits of the Project, as outlined in the Modification Report.

Since lodgment of the Modification Report, IMC has continued to engage with key stakeholders, including government agencies, local councils, community members and the MAP regarding the Project.

Potential impacts of the Project have been assessed against established thresholds of acceptability contained in relevant guidelines and policies where possible. Potential impacts have been avoided or minimised as far as is reasonable or feasible, and mitigation measures and offset strategies are proposed where residual impacts are predicted. As outlined in the Modification Report, the Project has been assessed against the principles of Ecologically Sustainable Development (ESD) as required by the EP&A Act and EP&A Regulation. This assessment has indicated that while the Project will have impacts, these impacts can be effectively managed, mitigated and the development will result in economic benefits to the community and the State of NSW, and an increase in workplace safety for mine workers. The assessment therefore concluded that the Project is consistent with the principles of ESD and after consideration of the submissions made and the responses provided in this Submissions Report, there is no change to that conclusion.

The Project will have a short term beneficial economic impact associated with the employment of 76 construction personnel, during the peak construction periods. The Project will have medium-long term economic benefits by the employment of a small number of additional employees during the operation of the Project and by ensuring the safe and ongoing operation of the Mine, and thereby ensuring:

- The continued direct employment of about 1,800 people.
- The continued engagement of numerous local suppliers and business to provide products and services to the Mine. In the 2020 financial year A$236.7M was spent with local vendors.
- The contribution of approximately A$2 billion in royalties and some A$205 million in employee and contractor payroll tax to the State of NSW over the life of the Mine.
- The continued supply of metallurgical coal to Australian steelmakers. The Mine is an essential supplier to BlueScope Port Kembla Steelworks, which is the largest steel production facility in Australia.

On balance, given the need for the Project, lack of alternatives, suitability of the Site, consistency with plans and policies, minor environmental impacts and economic benefit of the Project, it is clear the Project is in the public interest and its approval is likely to benefit the State of NSW.

On this basis, it would be reasonable to consider that with the implementation of the management and mitigation proposed by IMC, the Project will result in a net benefit to the NSW community.

REFERENCES

Department of Planning, Industry and Environment (2021) *State significant development guidelines – preparing a submissions report*

EMM Pty Ltd (2021) Air *Quality and Greenhouse Gas Assessment for the Appin Mine Ventilation and Access Project*

Illawarra Metallurgical Coal (June 2021) *Intelligent Land Management Assessment, Appin Mine Ventilation and Access Project, Modification Report for modification to Project Approval 08_0150*

Niche Environment and Heritage (2021) *Aboriginal Cultural Heritage Assessment Report for the Appin Mine Ventilation and Access Project*

Niche Environment and Heritage (2021) *Biodiversity Development Assessment Report for the Appin Mine Ventilation and Access Project*

Niche Environment and Heritage (2021) *Historical Heritage Assessment for the Appin Mine Ventilation and Access Project*

RWDI Australia Pty Ltd (2021) *Noise and Vibration Impact Assessment for the Appin Mine Ventilation and Access Project*

Transport and Urban Planning Pty Ltd (2021) *Traffic Assessment Report for the Appin Mine Ventilation and Access Project*

Wollondilly Shire Council (2011) *Wollondilly Local Environmental Plan 2011.*

APPENDIX A

Submissions Register

Name	Section where issues addressed*	Location	View	Social and Economic	Biodiversity	Water Resources	Noise	Air Quality	Visual Amenity	Lighting	Traffic and Transport	Aboriginal Cultural Heritage	Historic Heritage	Rehabilitation
Agency														
EPA	6.5, 6.6, 6.7	Bathurst	Comment			1	1	1						
Transport for NSW	6.1	Chippendale	Comment								1			
DPIE – Water and NRAR	6.5	Parramatta	Comment			1								
DRNSW - MEG	Nil	Maitland	Comment											
DPIE - EES	6.4	Parramatta	Comment		1									
DPIE – Resources Regulator	6.12	Maitland	Comment											1
Subsidence Advisory	Nil	Newcastle	Comment											
Heritage NSW	6.11	Sydney	Comment									1		
Wollondilly Shire Council	6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10,	Picton	Comment	1	1	1	1	1	1	1	1			
Organisation														
AGURBA Pty Ltd	Nil	Oyster Bay	Support											
Endeavour Energy	Nil	Huntingwood	Comment											
Public														
Allana and Nick Storrier	6.2, 6.3, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12	Menangle	Object	1		1	1	1	1	1	1		1	1
Jessica Storrier	6.2, 6.3, 6.8	Menangle	Object	1					1					
Elizabeth Storrier	6.2, 6.3, 6.8	Menangle	Object	1					1					
Layne Storrier	6.3, 6.8	Menangle	Object	1					1					
Aren Simonian	6.3, 6.7, 6.8	Menangle	Object	1				1	1					
Ian Bell	Nil	Victoria	Support											
Michael McGrath	6.2, 6.3, 6.10	Menangle	Object	1			1				1			

Name	Section where issues addressed*	Location	View	Social and Economic	Biodiversity	Water Resources	Noise	Air Quality	Visual Amenity	Lighting	Traffic and Transport	Aboriginal Cultural Heritage	Historic Heritage	Rehabilitation
Fiona Bullivant	6.2, 6.3, 6.10	Wilton	Object	1							1			
Martin Scott	6.2, 6.3, 6.5, 6.6, 6.7, 6.10	Menangle	Object	1		1	1	1	1		1			
Sam Davis	6.2, 6.7, 6.10, 6.12	Douglas Park	Comment	1				1			1			1
Anonymous	Nil	Unanderra	Support											
Anonymous	6.6, 6.8, 6.10	Douglas Park	Comment				1		1		1			
Anonymous	6.2, 6.4, 6.7, 6.10	Menangle	Object		1			1			1			
Anonymous	6.2, 6.7, 6.10	Menangle	Object					1			1			
Anonymous	6.2, 6.7, 6.10	Menangle	Object					1			1			
TOTAL				10	3	5	6	9	8	2	11	1	1	3

*only objecting or commenting submissions have been addressed in this response to submissions report

APPENDIX B

Updated Mitigation Measures

This section provides an updated version of the Statement of Commitments provided in the Project Modification Application (Table SOC-3), to include additional commitments specific to the proposed Project.

Table SOC-3

Summary of the Statement of Commitments for Surface Projects

Environment or Community Aspect	Commitments
Working hours and noise	• Construction hours will minimise the impact on the community where practical. • Activities will be undertaken as per the hours in the relevant project assessment (except emergencies), with a preference to undertake audible activities during day-light hours where possible. • Works will be designed with consideration to minimising impacts on the community.
Public Consultation	• IMC will continue to liaise with and provide information regarding surface activities via the IMC Community Consultative Committee, or any other such community group that is deemed appropriate. • IMC will continue to operate the 24-hour telephone line to provide an alternative method for public information.
Noise	• Noise will be mitigated as per the relevant project assessment and/or management plans. • Project layout will give consideration to the mitigation of noise impacts as practicable. • Noise performance will be incorporated into contractor performance requirements for surface projects in noise sensitive areas. • IMC will undertake noise monitoring as per the relevant project assessment document or management plan. • Consultation will be undertaken with receivers subject to significant noise impacts from projects. Consultation will address any additional noise mitigation measures proposed.
Air quality and Greenhouse Gas	• Construction activities will be managed to minimise the generation of dust. • Suitable measures, such as site layout design, dust suppression, stockpile management, appropriate road surfaces and rehabilitation of disturbed areas will be applied to projects to minimise dust generation. • Plant and operating equipment will be maintained appropriately to minimise fuel consumption and associated emissions. • Electrical power consumption will be minimised during the operational phases of the project where at all practicable.

Water resources	• Stormwater runoff, soil and erosion control measures will be managed in accordance with guidelines detailed in the publication Soils and Construction, Volume 1, 4th Edition and Controlled Activities on Waterfront Land. Guidelines for Laying Pipes and Cables in Watercourses on Waterfront Land, 2012, where relevant. Water controls will be employed as per the applicable project assessment or management plan documentation.
	• Service supply boreholes will be cased and grouted to address any known regionally significant aquifers.
	• Drilling process waste water will be managed as per the relevant project assessment.
	• Water required for projects will be sourced from appropriate sources, such as:
	  ○ Recycling captured water where possible,
	  ○ Water Licence in accordance with the requirements of the Water Sharing Plan 2010 (DECCW 2009) and the Water Management Act 2000;
	  ○ An authorised Sydney Water supply; or

Environment or Community Aspect	Commitments
	○ Appin Mine Filtration Plant.
Biodiversity	• Biodiversity will be managed as per the relevant project assessment and/or management plans. • Projects will be designed and constructed to minimise the amount of clearing of native vegetation and mature trees where practicable. • A two-stage clearing process will be undertaken for the felling of any hollow bearing trees. • Where native vegetation has been cleared, rehabilitation activities will include representative native seed where at all practicable.
Heritage (Aboriginal)	• Heritage will be managed as per the relevant project assessment and/or management plans. • Where identified sites are located adjacent to proposed activities a barrier will be installed to prevent interaction. • Where unexpected sites are identified during construction activities, works in vicinity of the site shall stop and a qualified archaeologist engaged.
Heritage (Non-Aboriginal)	• IMC will manage and conserve the Mountbatten Group in a manner consistent with its heritage values and in accordance with the Conservation Management Plan. • IMC will ensure the sympathetic placement of new buildings and structures on properties subject to heritage infrastructure (such as the Morton Park: Mountbatten Group). • Vegetation clearing for project activities will be minimised and should not include historic plantings. • Any relics discovered during project activities will be assessed and documented by an appropriately qualified cultural heritage expert. Where it is relevant to do so, relics will be retrieved and managed in accordance with any recommendations made by the cultural heritage expert. • Where surface projects interact with heritage items owned by other parties (e.g. the Water NSW Upper Canal), the infrastructure owner will be consulted and relevant approvals obtained prior to works.
Traffic	• Traffic will be incorporated into environmental assessment documentation. Where relevant, a Traffic Management Plan will be developed and implemented to minimise impacts and ensure continued road safety. • IMC will ensure any measures within a Traffic Management Plan will be implemented. • For large projects IMC will advise local residents of the commencement of works and any related potential disruptions to local traffic.
Risks and Hazards	• IMC will ensure contractors abide by Company HSEC policies and management systems. • IMC will ensure contractors undertake the appropriate investigations with regards to underground service locations prior to the commencement of excavation works. • Diesel storages and pipelines shall be constructed and maintained in accordance with the relevant standards. • Appropriate risk management equipment (such as firefighting facilities and spill kits) will be present and maintained, with staff trained in their use. • Safety fencing will be installed around excavations and high risk areas of project sites to mitigate risks associated with unauthorised access. Vehicular accesses will be gated and locked when not in use.
Waste	• To minimise waste generation material generated from construction works will be utilised on site or as capping material at West Cliff emplacement area, where suitable.

Environment or Community Aspect	Commitments
	• Waste will be appropriately captured and transferred to suitable re-use, recycling or disposal locations.
Visual Amenity	• Clearing of native vegetation and mature trees will be minimised at projects where possible. • For long term infrastructure IMC will look to avoid the use of highly reflective materials or materials not commensurate with the surrounds, as is practicable. • Screening trees will be included in revegetation works, as and where appropriate for long term projects. • Permanent lighting will be installed as per the relevant standards but will consider visual amenity and light spill. • Temporary lighting will be arranged to minimise light spillage as much as possible without compromising safety or operations.
Rehabilitation	• IMC will undertake rehabilitation of any areas disturbed by the project to ensure the environment is returned as close as possible to pre-project condition and/or to meet landowner specific requirements. • De-commissioning of boreholes and shafts will be undertaken in accordance with the requirements of the relevant government department/s.
The Appin Mine Ventilation and Access Project	• The long-term management of recovered artefacts will be undertaken in accordance with Requirement 26 of the DECCW 2010 Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW. • IMC will provide biodiversity offsets under the NSW Biodiversity Offset Scheme for the Retirement of two (2) PCT 849 Ecosystem Credits. • A Blast Management Strategy will be prepared. • IMC will continue to liaise with and provide information regarding the Project construction via the Menangle Advisory Panel. • An Infrastructure Management Plan will be prepared in consultation with Transport for NSW, should the potential OSO1 be constructed at the Site during the operational life of the Site. • IMC will undertake air quality monitoring as per the relevant management plan.

APPENDIX C

Viewpoints

Figure VP - 1 View towards the Site from 3 Finns Road, Menangle.

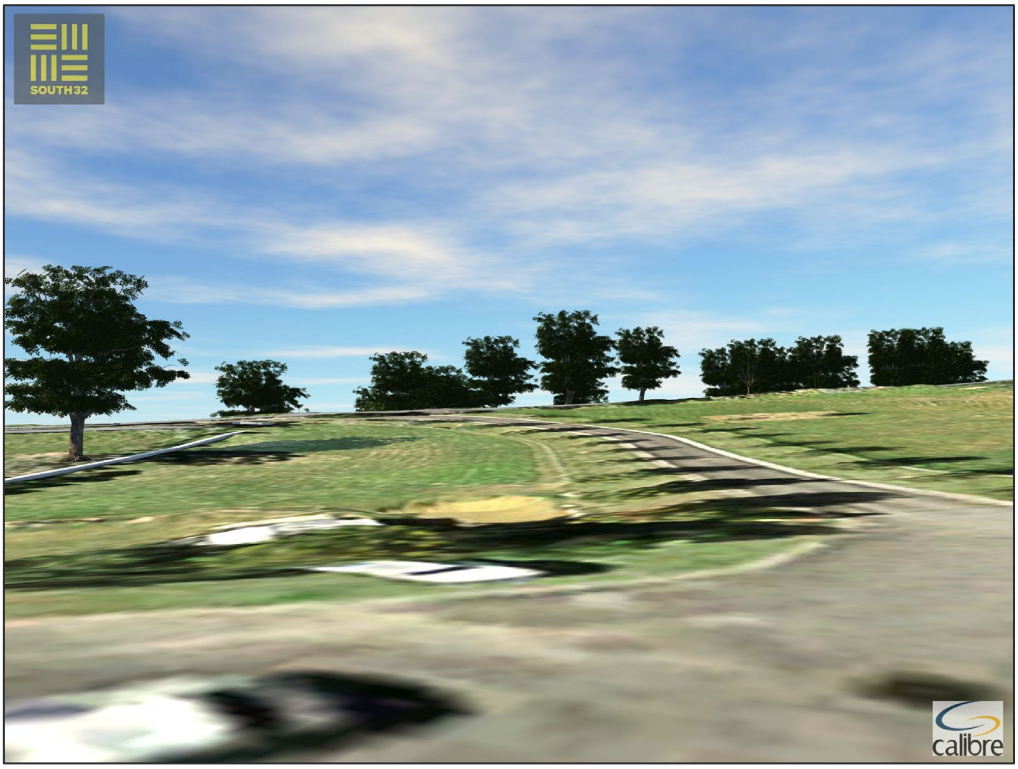

Figure VP - 2 View towards the Site from 30 Finns Road, Menangle (during construction – no screen planting at residence)

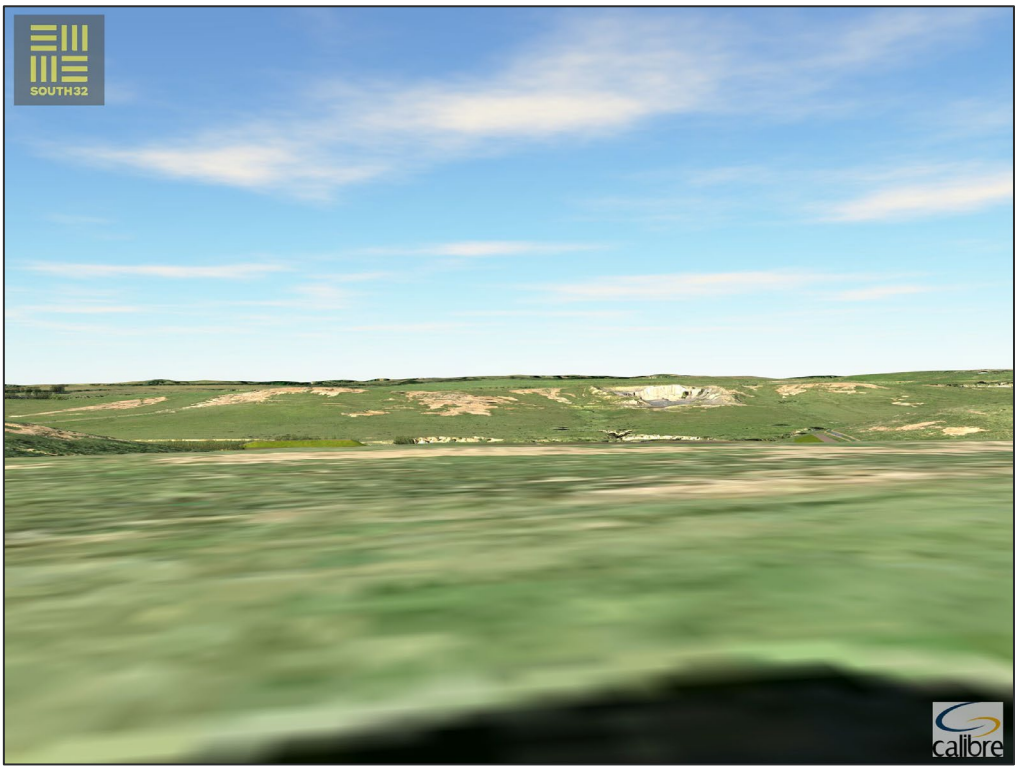

Figure VP - 3 View towards the Site from 30 Finns Road, Menangle (operational phase of Project three years post Project commencement with no screen planting at residence and only three years growth of Site screen plantings)

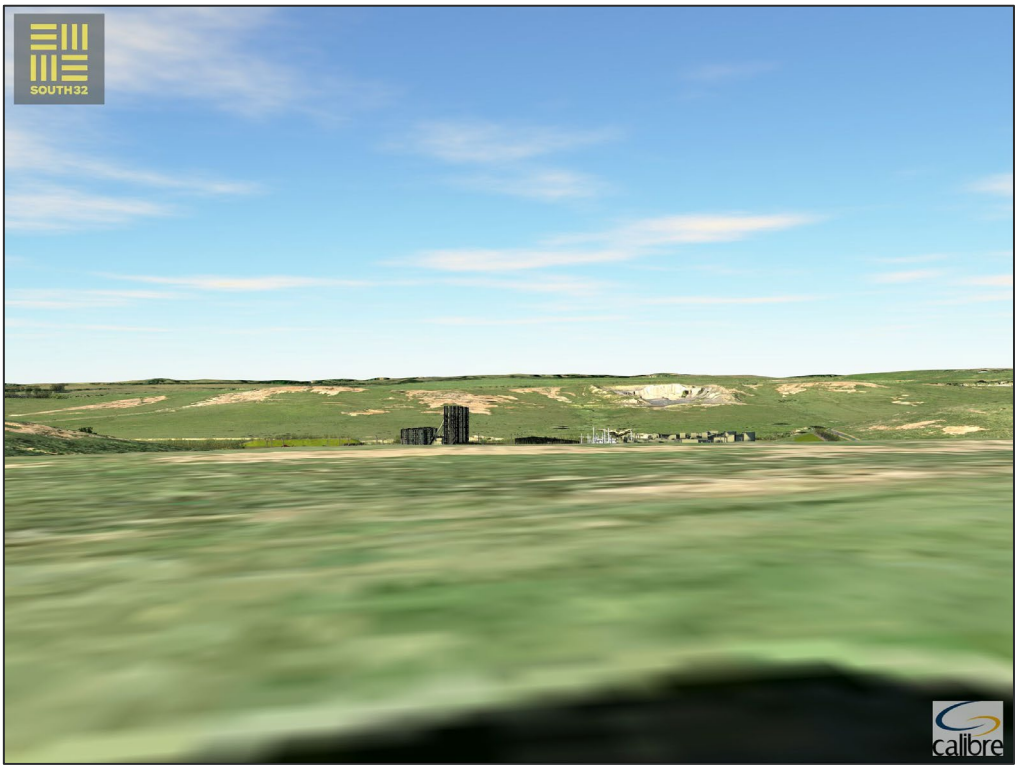

Figure VP - 4 View towards the Site from 30 Finns Road, Menangle (operational phase of Project with no screen planting at residence and with mature Site screen plantings)

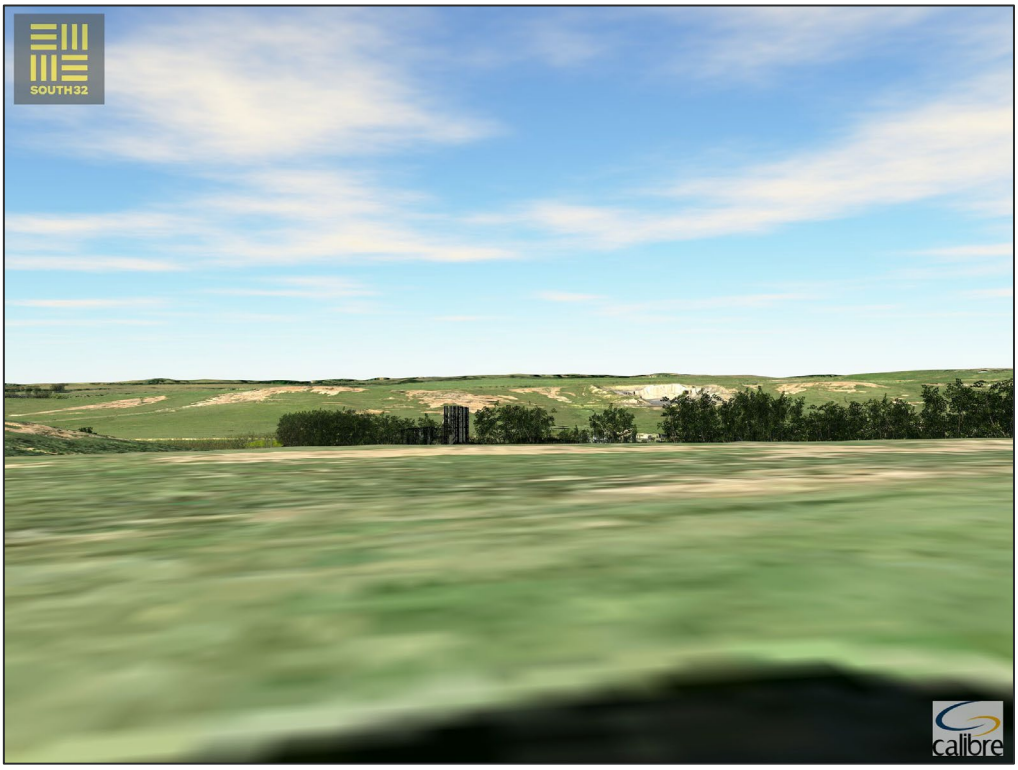

Figure VP - 5 View towards the Site from 30 Finns Road, Menangle (during construction phase of the Project and with screen planting at residence 1.2m high)

Figure VP - 6 View towards the Site from 30 Finns Road, Menangle (operational phase of Project three years post Project commencement with 1.2m screen planting at residence and only three years growth of Site screen plantings)

Figure VP - 7 View towards the Site from 30 Finns Road, Menangle (operational phase of Project with 1.2m screen planting at residence and with mature Site screen plantings)

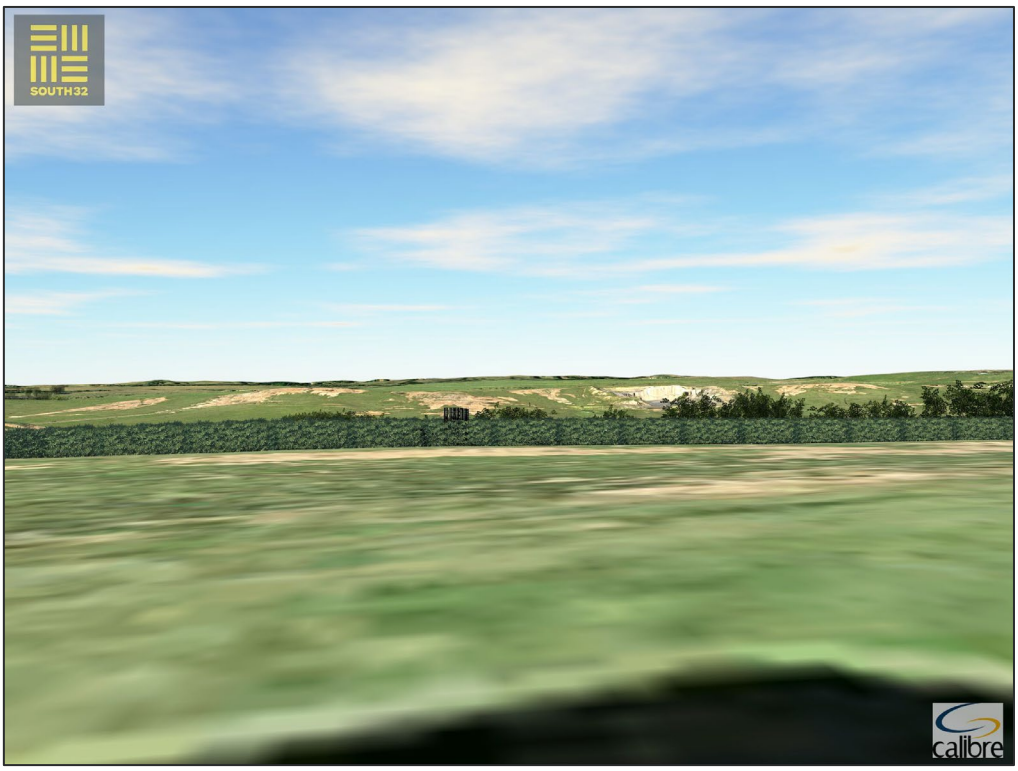

Figure VP - 8 View towards the Site from intersection of Finns Road and Menangle Road (during construction Phase of the Project when Site screen plantings recently planted with existing mature trees retained).

Figure VP - 9 View towards the Site from intersection of Finns Road and Menangle Road (Site screen plantings three years old with existing mature trees retained)

Figure VP - 10 View towards the Site from intersection of Finns Road and Menangle Road (Site screen plantings five years old with existing mature trees retained)

Figure VP - 11 View towards the Site from intersection of Finns Road and Menangle Road (Site screen plantings at maturity with existing mature trees retained)

Figure VP - 12 View towards the Site from Menangle Road, heading north toward Site entrance (during construction Phase of the Project when Site screen plantings recently planted)

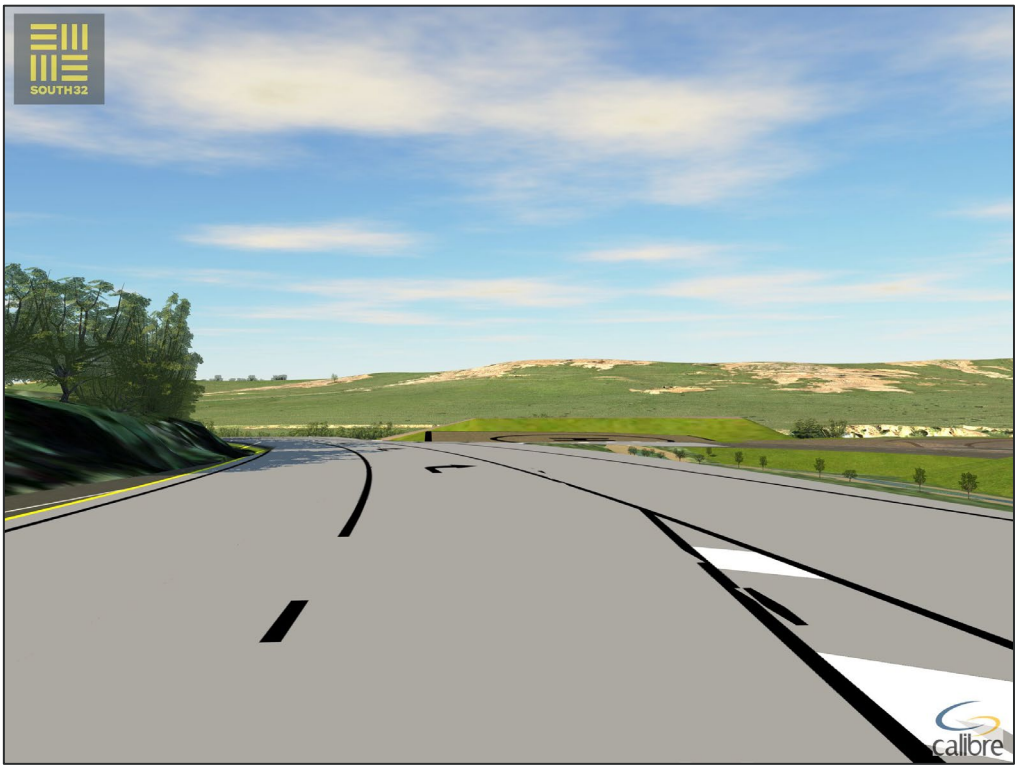

Figure VP - 13 View towards the Site from Menangle Road, heading north toward Site entrance (Site screen plantings three years old)

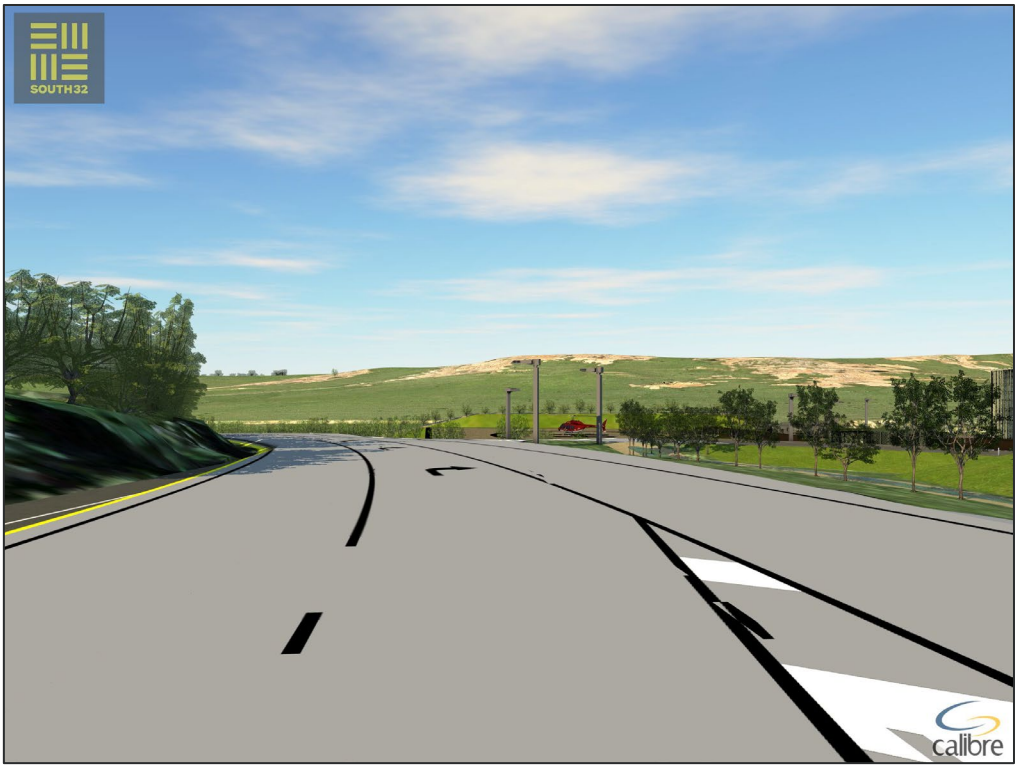

Figure VP - 14 View towards the Site from Menangle Road, heading north toward Site entrance (Site screen plantings at maturity)

Figure VP - 15 View towards the Site from Menangle Road, heading south toward Site entrance (during construction Phase of the Project when Site screen plantings recently planted)

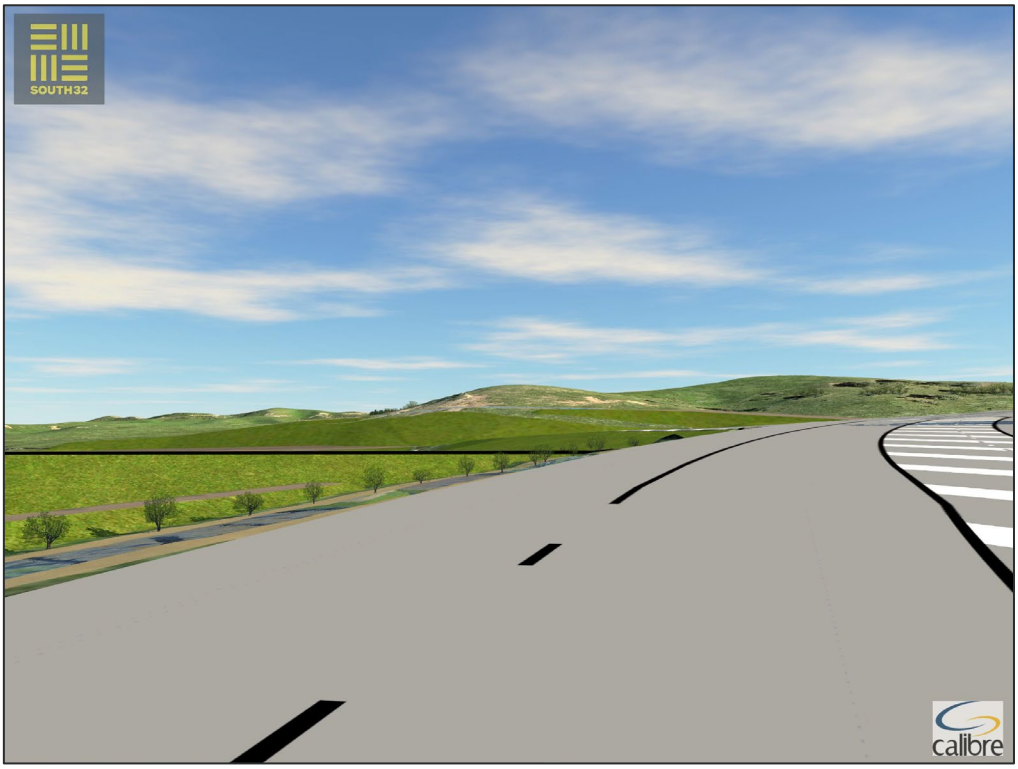

Figure VP - 16 View towards the Site from Menangle Road, heading south toward Site entrance (Site screen plantings three years old)

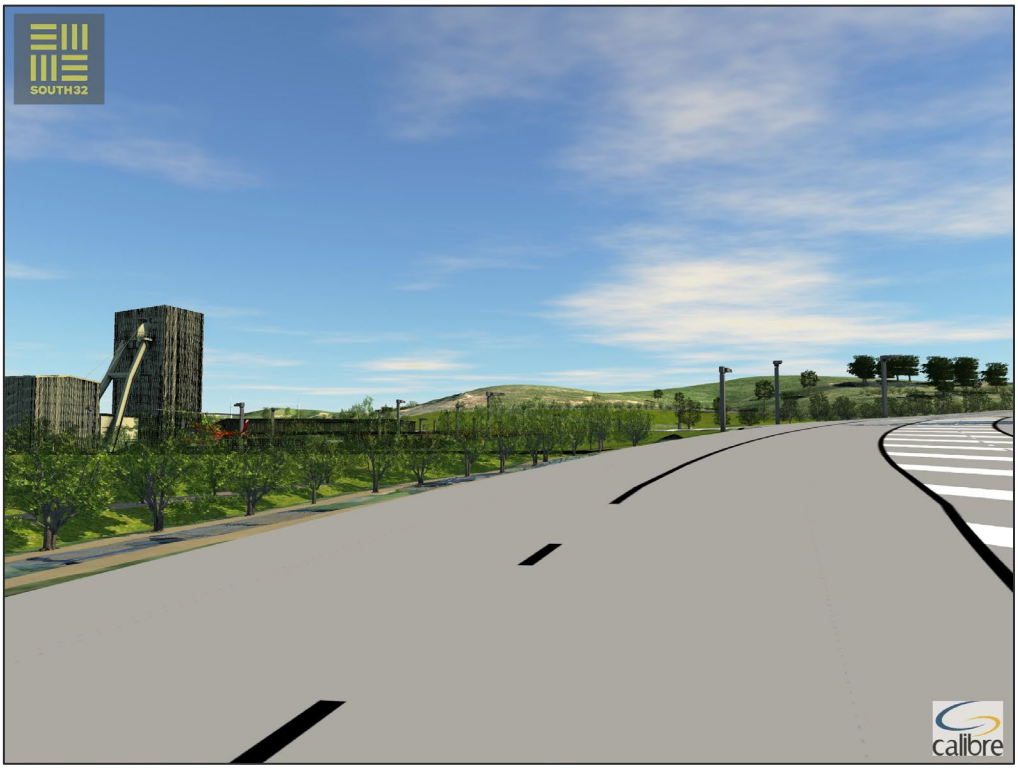

Figure VP - 17 View towards the Site from Menangle Road, heading south toward Site entrance (Site screen plantings at maturity)

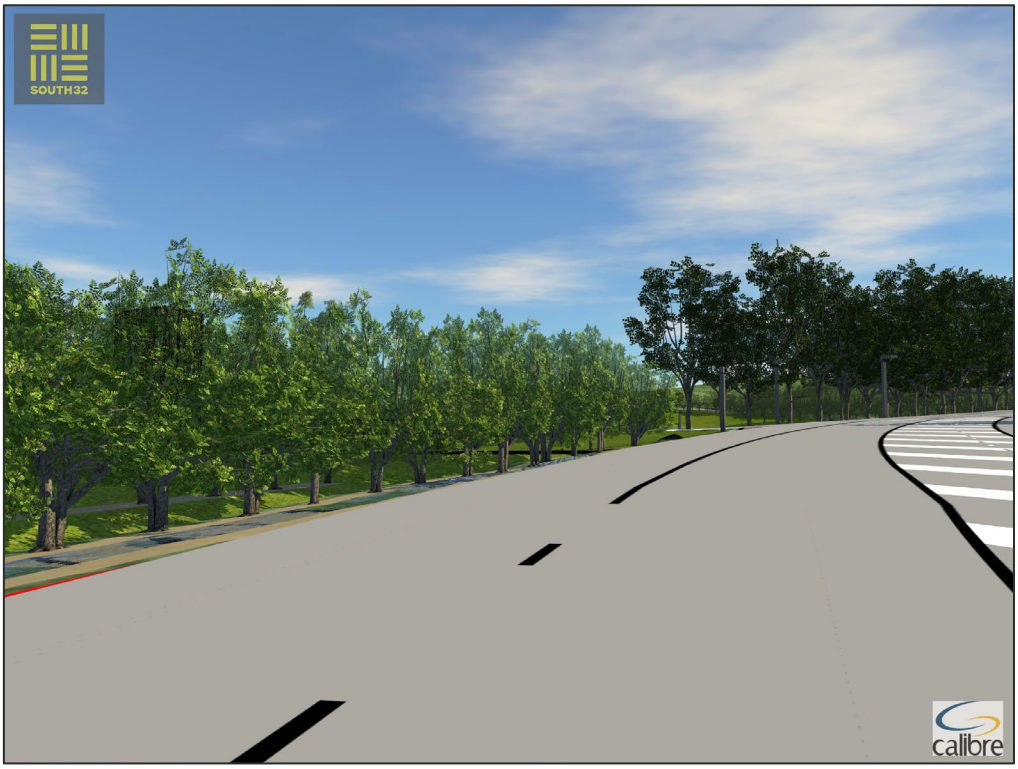

Figure VP - 18 View towards the Site from Menangle Road, heading south toward Site entrance (Site screen plantings five years old and road corridor weed species left in-situ)

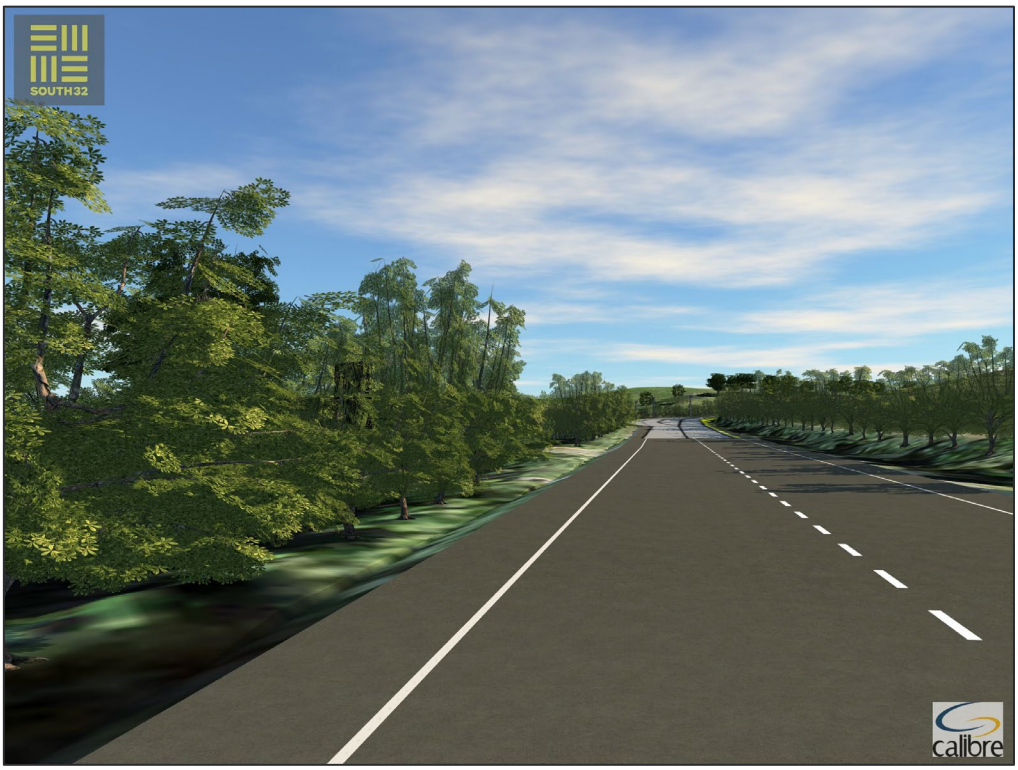

Figure VP - 19 View towards the Site from Menangle Road, heading south toward Site entrance (Site screen plantings five years old and road corridor weed species removed)

Figure VP - 20 View towards the Site from Menangle Road, heading south toward Site entrance (Site screen plantings at maturity and road corridor weed species left in-situ)

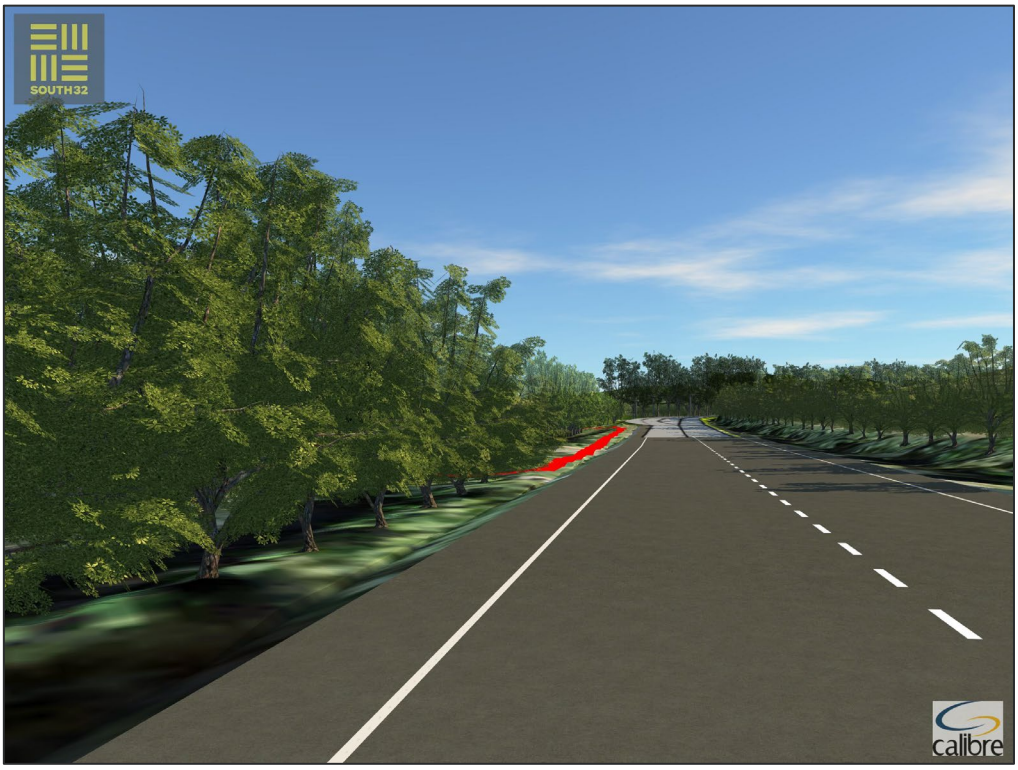

Figure VP - 21 View towards the Site from Menangle Road, heading south toward Site entrance (Site screen plantings at maturity and road corridor weed species removed)

APPENDIX D

Supporting Information

Niche Environment and Heritage
NSW South Coast Office PO Box 31 Fairy Meadow NSW 2519
T 02 9360 5658 F 02 4017 0071
E info@niche-eh.com ABN 191 37 111 721
Excellence in your environment

1 October 2021

Ms Nicola Curtis
Principal Mining Approvals
South32 , Illawarra Metallurgical Coal

Via email: Nicola.Curtis@South32.net

Dear Nicola,

Re: Response to Submissions for the Appin Mine Ventilation and Access Project reference DOC21/595594-3 – Aboriginal Cultural Heritage Assessment (Niche Ref #6875)

Thank you for the opportunity to assist Illawarra Metallurgical Coal (IMC) with your response to submissions for the Appin Mine and Ventilation and Access Project (MP08_0150-Mod-3), hereafter referred to as the Project

In relation to the Aboriginal Cultural Heritage Assessment Report (ACHAR), Heritage NSW in their submission dated 18 August 2021 stated:

'We note reference to a Care and Control Agreement being necessary to allow for the legal reburial of Aboriginal objects at a safe location within the project area. We take this opportunity to advise that this is not the correct process with regard to reburial of Aboriginal objects. We strongly recommend that the project cultural heritage advisor rewrite section 4.4 of the ACHAR in a manner that outlines a legally compliant process for the reburial of Aboriginal objects in NSW.'

In response, Niche consulted with Heritage NSW who have confirmed that all advice and recommendations relating to a care and control agreement should be replaced with the following commitment which is correctly informed by Requirement 26 of the DECCW 2010 *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*:

For Aboriginal objects associated with registered Aboriginal cultural heritage site Bulli Site 7 (AHIMS ID#52-2-3687) will be returned to the site and the following will be completed:

- *A full catalogue, including photographic and drawn records for diagnostic stone artefacts, must be made.*
- *The catalogue must be in printed form but may also include an electronic database in the form of a table containing all records.*
- *All stone artefacts must be either individually bagged or bagged in appropriate and identifiable units (e.g. excavation or collection units) that can be referenced back to the catalogue.*
- *The stone artefacts will be stored in good quality, double-bagged plastic zip-lock bags.*
- *The bags must be externally labelled using permanent marker, and an 'independent' label on robust material (e.g. tyvek) written with permanent marker must be placed inside each bag.*
- *The collection will be placed in a suitable impervious and permanent container, which must be labelled as above, or engraved.*
- *A full record of the final location of the collection will be made, including: – grid coordinates derived as set out in Requirement 8 – a site plan or mud map referring to permanent features – depth of burial, if buried – full photographic record of the disposition.*

- *The record will be submitted to AHIMS with a site update record card for the site(s) in question.*

Accordingly, we advise you that the advice and recommendations in relation to a care and control agreement in Section 4.4 of the Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project are superseded by the above commitment. This letter is supplied as an addendum to the ACHAR for the Project.

Further, a copy of this letter will be supplied to the Registered Aboriginal Parties (RAPs) for the Project and we recommend updating IMC's Statement of Commitments for the Project to reflect the above changes.

Please feel free to call or email if you wish to discuss this response further.

Yours sincerely,

Renée Regal
Discipline Manager- NSW Heritage
Niche Environment and Heritage