BOWDENS SILVER PROJECT

SUPPLEMENTARY INFORMATION REPORT - RESPONSE TO DEPARTMENT OF PLANNING, HOUSING & INFRASTRUCTURE REQUEST FOR INFORMATION

for Bowdens Silver Pty Limited

11 July 2025

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Client Address	68 Maloneys Road, Lue NSW 2850
Author	Xenith Consulting
Author Address	The Singleton Centre, Shops 4-6, 157-159 John St, Singleton NSW 2330
Our Reference	*3218BOWD_V11*

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1. INTRODUCTION

1.1 BACKGROUND

Xenith Consulting Pty Ltd (Xenith) has been commissioned by Bowdens Silver Pty Limited (Bowdens Silver) to assist in the preparation of a response to a request for information (RFI) from the Department of Planning, Housing and Infrastructure (DPHI) to assist them in completing further assessment of State Significant Development (SSD) application 5765 (SSD-5765) in relation to the Bowdens Silver Project (BSP).

This document has been prepared in response to the RFI outlined within letter correspondence between Stephen O'Donoghue (DPHI Director, Resource Assessments) and Hamish Russell (Bowdens Silver, Sustainability and Approvals Manager) dated 9 and 13 December 2024. Further details regarding the RFI are outlined in **Section 2.1**.

1.2 DOCUMENT PURPOSE

As advised within correspondence from Bowdens Silver to DPHI dated 13 December 2024, Bowdens Silver is not seeking approval for the proposed 66 kilovolt (kV) powerline (proposed powerline) as part of SSD-5765. This document has been prepared pursuant to the Planning Secretary's determination on 23 May 2025 that the proposed powerline is not part of the single proposed development subject of SSD-5765, in accordance with Section 4.38(4A) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The single proposed development subject of SSD-5765 comprises the development as described in *Development Application Case ID SSD-5765* and its associated Environmental Impact Statement (EIS) and Amendments.

The purpose of this document is to:

1. Provide supporting information, to enable the DPHI's assessment of potential environmental impacts of the proposed powerline, and
2. Identify the key relevant legislative, planning instrument and policy updates that have occurred since the New South Wales (NSW) Independent Planning Commission (IPC) made its original determination over the BSP,

as requested by the letter from DPHI dated 9 December 2024.

1.3 DOCUMENT STRUCTURE

This document is structured as follows:

- **Section 2** provides an overview of the BSP SSD-5765 Development Consent application history;
- **Section 3** outlines the relevant legislative updates that have occurred since the IPC's original determination of the BSP;
- **Section 4** outlines the elements that make up the single proposed development;
- **Section 5** outlines network authorisation and connection requirements;
- **Section 6** describes the proposed powerline route and outlines key environmental and land owner consent considerations;
- **Section 7** provides a conclusion to this document and its key findings;
- **Appendix A** provides a copy of the revised Greenhouse Gas Assessment for the BSP;
- **Appendix B** provides a copy of the desktop Biodiversity Constraints Assessment (BCA) completed for the proposed powerline; and
- **Appendix C** provides a copy of the Aboriginal Cultural Heritage Constraints Assessment (ACHCA) completed for the proposed powerline.

2. PROJECT OVERVIEW

2.1 BACKGROUND

Bowdens Silver is a wholly owned subsidiary of Silver Mines Limited and is the holder of Exploration Licences (EL) 5920 and EL 6354 which contains the BSP. The BSP is located near the village of Lue, approximately 26 km southeast of Mudgee in the Mid-Western Regional Council (MWRC) Local Government Area (LGA) of NSW.

On 3 April 2023, the IPC granted SSD approval (SSD-5765) for the BSP under Division 4.7 of the EP&A Act to conduct open cut mining operations for a period of up to 15.5 years from the commencement of mining. An indicative layout of the BSP as now proposed (i.e. excluding the proposed powerline) is provided in **Figure 1**.

The BSP also requires approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and a Controlled Action application (EPBC 2018/8372) is currently being considered by the Commonwealth Government (pending the re-approval of the BSP under the EP&A Act).

The Bingman Catchment Landcare Group Incorporated (Bingman) filed a judicial review challenge in the Land and Environment Court (LEC) over the IPC's decision to grant SSD-5765. This judicial review challenge considered whether the IPC adequately considered matters relating to the construction and location of a powerline which may be required to power the mine site. The LEC dismissed those proceedings on 14 March 2024.

Bingman subsequently filed an appeal with the New South Wales Court of Appeal (NSWCA) which was heard on 22 July 2024. The appeal to the NSWCA sought to challenge the decision by the LEC to dismiss the Bingman judicial review proceedings. The NSWCA delivered its judgment on Friday, 16 August 2024. The NSWCA found that the IPC had not sufficiently considered the likely impacts of the proposed powerline. The NSWCA concluded the grant of SSD-5765 was void and of no effect.

The NSWCA judgment found that the proposed powerline should have been considered by the IPC as being part of a 'single proposed development that is SSD' within the meaning of Section 4.38(4) of the EP&A Act, regardless of whether it was 'Exempt Development' and/or development permissible without consent.

As the consent granted by the IPC has been declared void and set aside, there is no determination of SSD-5765 in law and the application can be re-determined. It is open to the IPC to refer SSD-5765 to DPHI to undertake any further assessment that may be necessary so that the IPC may re-determine SSD-5765.

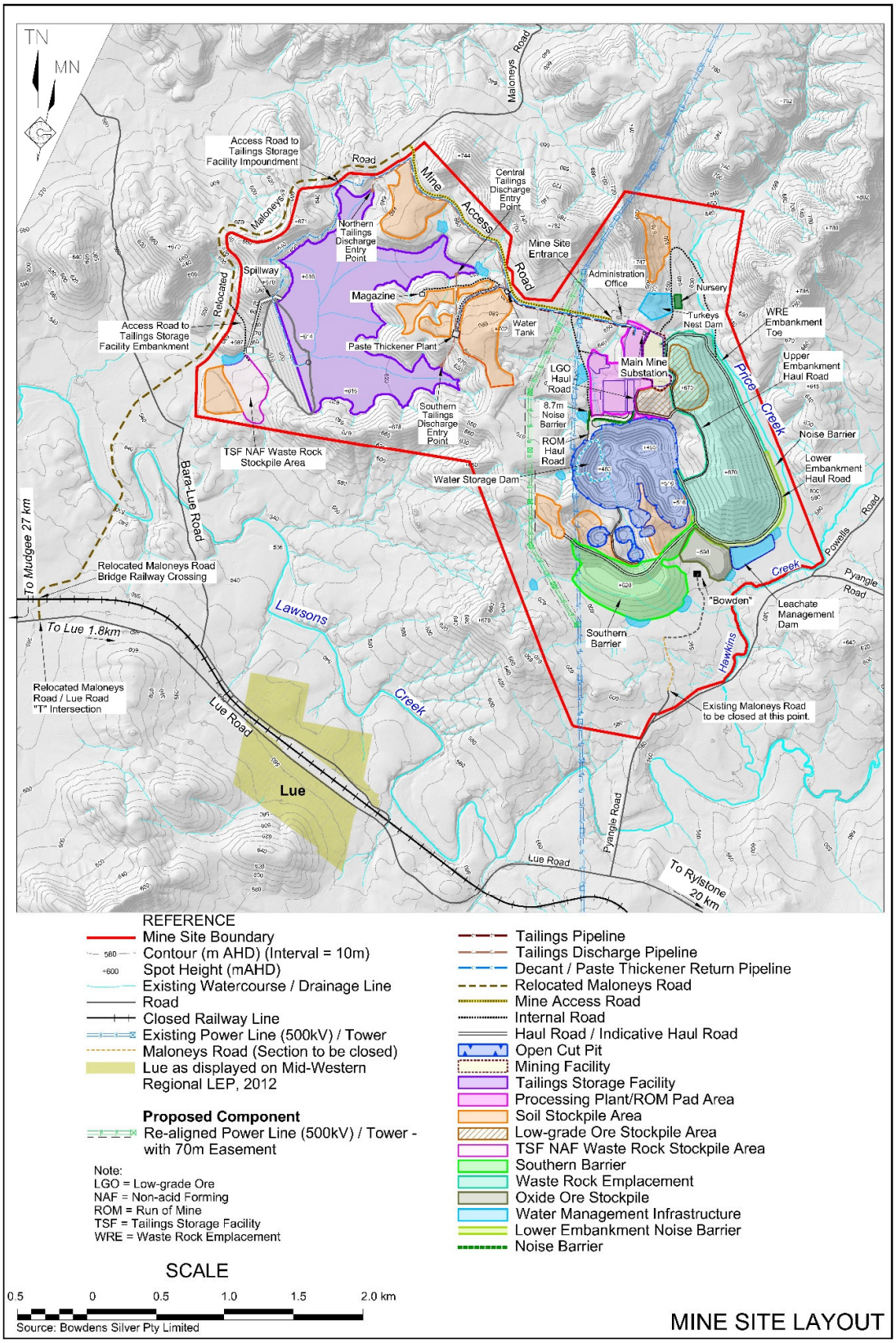


Figure 1 Bowdens Silver Project Mine Site Layout

On 2 December 2024, the *Environmental Planning and Assessment Amendment (State Significant Development) Bill 2024* (the Bill) was assented to. The amended Act allows the Planning Secretary to determine whether associated parts of a proposed development form part of a single proposed development for the purposes of Section 4.38(4) of the EP&A Act.

The IPC wrote to the DPHI on 28 November 2024 seeking its advice about whether additional assessment of the BSP will be undertaken. DPHI subsequently issued an RFI to Bowdens Silver on 9 December 2024, seeking information on how Bowdens Silver intends to progress with the BSP following the NSWCA judgment. DPHI has indicated that it requires confirmation over the following items for their further assessment of the BSP:

- Whether Bowdens Silver wishes to press SSD-5765 in its current form or amend SSD-5765 (such as to include the proposed powerline amongst other things). If the intention is to amend SSD-5765 to include the proposed powerline, the DPHI would require some detailed assessment information about the proposed powerline; or
- If the intention is to have SSD-5765 re-determined in its current form and carry out the powerline under an alternative planning pathway under the EP&A Act, the DPHI requires:
  - Additional supporting information to enable a higher level of assessment of any impacts of the proposed powerline;
  - Information that demonstrates that the proposed powerline can be delivered under an appropriate alternative planning pathway under the EP&A Act; and
  - Any updated information about statutory instruments or relevant policies that have been made or amended since the IPC made its original decision.

Bowdens Silver responded to the DPHI's RFI on 13 December 2024 advising that it intends to have SSD-5765 re-determined in its current form excluding the proposed powerline, and explained that development of the proposed powerline will be pursuant to an alternative pathway under the EP&A Act.

Bowdens Silver advised within its letter correspondence that it would provide additional supporting information to enable further assessment of any impacts of the proposed powerline. This report provides the additional supporting information and has been prepared in response to the DPHI's RFI in accordance with Bowdens Silver's letter to DPHI dated 13 December 2024.

3. REVISED STATUTORY CONTEXT

3.1 BACKGROUND

Table 1 outlines the relevant legislative updates that have occurred since the IPC made its original determination over the BSP.

Table 1 Statutory Requirements Relevant to the BSP

Category	Relevant Provisions	Application to the BSP	Relevant Updates
Approval Pathway	Part 4 Division 4.7 of the EP&A Act. Schedule 1 Section 5 of the *State Environmental Planning Policy (Planning Systems) 2021* (Planning SEPP).	Development consent is required under the EP&A Act for the purposes of mining in New South Wales (NSW). The BSP has been submitted for approval under Part 4, Division 4.7 of the EP&A Act as the capital investment value for the BSP will exceed the $30 million threshold for SSD. This threshold is stipulated in Section 5 of Schedule 1 of the Planning SEPP. On 3 April 2023, the NSW IPC granted SSD approval (SSD-5765) for the BSP under Division 4.7 of the EP&A Act to conduct mining operations for a period of up to 15.5 years from the commencement of mining. On 16 August 2024, the NSWCA declared that SSD-5765 is void and of no effect (see *Bingman Catchment Landcare Group Incorporated v Bowdens Silver Pty Ltd [2024] NSWCA 205*). The NSWCA held that the proposed powerline should have been considered by the IPC as part of a 'single proposed development that is SSD' within the meaning of Section 4.38(4) of the EP&A Act. On 2 December 2024, the *Environmental Planning and Assessment Amendment (State Significant Development) Bill 2024* (the Bill) was assented to. Section 4.38(4A) of the EP&A Act grants the Secretary the authority to determine that a particular development does or does not form part of a single proposed development for the purposes of certain development consent requirements.	Section 4.38 of the EP&A Act was amended to grant the Secretary authority to determine that a particular development does or does not form part of a single proposed development for the purposes of certain development consent requirements. Section 5 of Schedule 1 of the Planning SEPP supersedes Section 5 of Schedule 1 of the former *State Environmental Planning Policy (State and Regional Development) 2011*.

Category	Relevant Provisions	Application to the BSP	Relevant Updates
Consent Authority	Section 4.5 of EP&A Act Section 2.7(1) of the Planning SEPP	Under Section 4.5(a) of the EP&A Act, the IPC is the consent authority for SSD in the following circumstances: • The local council has lodged an objection to the development; • The development has received more than 50 submissions; or • The proponent has disclosed a reportable political donation. In all other circumstances, the Minister is the consent authority. The BSP received more the 50 submissions and as such the IPC is the consent authority.	Section 2.7(1) of the Planning SEPP supersedes Section 8A(1) of the former *State Environmental Planning Policy (State and Regional Development) 2011*.
Permissibility	Land use table in the *Mid-Western Regional Local Environment Plan 2012* (Mid-Western LEP) Section 2.9(1) of the *State Environmental Planning Policy (Resources and Energy) 2021* (Resources SEPP)	The principal local planning instrument for the BSP is the Mid-Western LEP. Under that plan, the Mine Site and relocated Maloneys Road are located within land zoned RU1 – Primary Production with open cut mining permissible with consent within this zone. Section 2.9(1) of the Resources SEPP permits mining with development consent on land where agriculture or industry is also permitted. Therefore, the BSP is permissible (with consent).	Section 2.9(1) of the Resources SEPP supersedes Section 7(1) of the former *State Environment Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.
	Section 2.10 of the Resources SEPP	Section 2.10 of the Resources SEPP takes legal precedence over the provisions of the Mid-Western LEP by allowing development such as the BSP to be carried out on land with development consent without provisions of the Mid-Western LEP having to be satisfied and by providing that those provisions have no effect on the carrying out of a development or on the determination of a development application for consent to carry out a development.	Section 2.10 of the Resources SEPP supersedes Section 8(1) of the former *State Environment Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.
Strategic Agricultural Land	Part 2.4 of the Resources SEPP	The BSP's mining lease application (MLA) area is not located on Biophysical Strategic Agricultural Land (BSAL) or mapped Critical Industry Cluster (CIC) land.	Part 2.4 of the Resources SEPP supersedes Part 4AA of the former *State Environment Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.

Category	Relevant Provisions	Application to the BSP	Relevant Updates
		In accordance with Part 2.4 of the Resources SEPP, the BSP development application is accompanied by a Site Verification Certificate (SVC) dated 8 November 2017 which confirms that there is no contiguous BSAL within the Boundary of the Mine Site. A copy of the issued Site Verification Certificate is provided in Annexure E of *Bowdens Silver Environmental Impact Statement: State Significant Development No. 5765* (EIS) (R.W. Corkery & Co Pty. Limited, 2020).	
Matters for consideration	Section 4.15 of the EP&A Act	The consent authority is required to consider the matters under Section 4.15 of the EP&A Act when determining the application. This includes: • Provisions of environmental planning instruments; • Draft Instrument that has been publicly exhibited; • Development control plan; • Planning agreement; • The impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality; • The suitability of the site for the development; • Any submissions made in accordance with the EP&A Act or the regulations; and • The public interest.	Relevant statutory updates which have occurred since the IPC determination are discussed throughout this table.

Category	Relevant Provisions	Application to the BSP	Relevant Updates
	Social Impact Assessment Guideline for State Significant Projects (NSW Government, 2021)	The *Social Impact Assessment Guideline for State Significant Projects* (NSW Government, 2021) were considered by the NSW DPHI to be not applicable to the BSP under transitional arrangements according to *Bowdens Silver Project, State Significant Development Assessment SSD 5765* (NSW Department of Planning and Environment, December 2022).	The *Social Impact Assessment Guideline for State Significant Projects* (NSW Government, 2021) superseded the *Social Impact Assessment Guidelines for State Significant Mining, Petroleum Production and Extractive Industry Development 2017*. The *Social Impact Assessment Guideline* (NSW Government, February 2023) represents the latest revision to these guidelines and supersede the 2021 Guideline. There are no material changes or further requirements for the BSP.
	Part 2.3 of the Resources SEPP	The Resources SEPP requires the consent authority to consider the following when determining an application for mining: • Compatibility of the BSP with surrounding land uses (Section 2.17); • Voluntary land acquisition and mitigation policy (Section 2.18); • Compatibility of the BSP with other mining, petroleum production or extractive industries (Section 2.19); • Whether conditions should be issued to ensure that the development is undertaken in an environmentally responsible manner (Section 2.20); • The efficiency of the development in terms of resource recovery (Section 2.21); • Whether conditions should be issued regarding transportation of materials (Section 2.22); and • Whether conditions should be issued regarding rehabilitation of land (Section 2.23).	Part 2.3 of the Resources SEPP supersedes Part 3 of the former *State Environment Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.

Category	Relevant Provisions	Application to the BSP	Relevant Updates
	Chapter 3 and Chapter 4 of *State Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience SEPP)	**Hazardous and Offensive Development** The BSP constitutes a potentially hazardous development. The consent authority is required to consider the matters in Chapter 3 Section 3.12 of the Resilience SEPP, including the Preliminary Hazard Analysis in Volume 1 Part 4 of the EIS. **Remediation of Land** Chapter 4 of the Resilience and Hazards SEPP requires Applicants to consider whether the land of a Development Site is contaminated and if remediation is required for the purpose of a proposed Project. As the areas proposed for disturbance within the Application Area have previously been used for grazing and/or exploration activities, it is highly unlikely any contamination is present that requires remediation work prior to undertaking the proposed mining operation. It is noted that areas historically used for the storage of chemicals for agricultural applications are located beyond the proposed limit of disturbance. Hence, based upon preliminary investigations, Chapter 4 of the Resilience SEPP has not been considered further.	**Hazardous and Offensive Development** Chapter 3 of the Resilience SEPP supersedes the former Part 3 Section 13 *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development.* **Remediation of Land** Chapter 4 of the Resilience SEPP supersedes the former *State Environmental Planning Policy No. 55 – Remediation of Land.*
	National Greenhouse and Energy Reporting Act 2007 (NGER Act)	Bowdens Silver's exploration activities currently do not trigger the thresholds for reporting under the NGER Act. However, the BSP's emissions will result in Bowdens Silver triggering the thresholds for reporting under the NGER Act. Bowdens Silver will monitor the activities on-site that generate greenhouse gas (GHG) emissions and report appropriately in accordance with the NGER Act (as required). The estimation of GHG emissions for the BSP (see Volume 1 Part 2 of the EIS) is primarily based on the *National Greenhouse Accounts Factors* (NGAF) (Australian Government Department of Environment and Energy (DEE), 2018). The *Australian National Greenhouse Accounts Factors* (ANGAF) (Australian Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2024) has superseded the NGAF workbook.	The ANGAF has superseded the NGAF workbook. A revised GHG Assessment has been prepared to reflect the revised calculation methodologies and emissions factors specified within the ANGAF. The GHG Assessment Report has been revised and is provided in **Appendix A**.

Category	Relevant Provisions	Application to the BSP	Relevant Updates
		The NGER Act authorises the *National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015* (Safeguard Mechanism) whereby facilities emitting more than 100,000 t CO_2-e equivalent in a year are required to set legislated targets (known as baselines) on GHG emissions. Due to the predicted Scope 1 & 2 emissions not exceeding 100,000 t CO_2-e, it is expected the Safeguard Mechanism will not be triggered for the BSP.	
	Climate Change (Net Zero Future) Act 2023 (Climate Change Act) *NSW EPA Climate Change Policy* (Climate Change Policy; NSW Environment Protection Authority (EPA) 2023a) *NSW EPA Climate Change Action Plan 2023-2026* (Climate Change Action Plan 2023; EPA, 2023b) *NSW EPA Guide for Large Emitters* (GHG Guideline; NSW EPA, 2025)	The Climate Change Act provides the legislative foundation for climate policy in NSW by mandating the state's GHG reduction targets . The Climate Change Policy and Climate Change Action Plan 2023 were introduced in January 2023 and are key implementation tools supporting the Climate Change Act, aimed at providing a structure for regulating and supporting large emitters in reducing their GHG emissions. This involves establishing clear expectations and guidelines to assist these entities in aligning with the NSW's climate goals and achieving net zero emissions by 2050. The Climate Change Action Plan sets out the regulatory action the EPA will consider over the medium to longer term, where an increased regulatory response may be required to support the NSW Government's climate change commitments and policies, including achieving net-zero emissions in NSW by 2050. In January 2025, the NSW EPA published the GHG Guideline which outlines climate change assessment requirements for 'large emitters'. The GHG Guide applies to proposed developments that satisfy the following criteria for a 'large emitter': • The Project requires development assessments and approvals under the EP&A Act; • The Project involves one or more scheduled activities under Schedule 1 of the POEO Act and/or will be carried out at an existing licensed premises; and • The Project is likely to emit 25,000 t or more of Scope 1 & 2 emissions (CO_2-e) in any financial year during the operational life of the project (based on planned operational throughput and as designed).	On 11 December 2023 the Climate Change Act was assented to. The Climate Change Policy, Climate Change Action Plan and GHG Guideline are new documents which support the Climate Change Act, and were released following assessment of the BSP.

Category	Relevant Provisions	Application to the BSP	Relevant Updates
		The Project meets the criteria for a 'large emitter' and as such the GHG Assessment Report has been revised and is provided in **Appendix A**. The GHG Assessment Report includes an updated assessment of greenhouse gas (GHG) emissions in accordance with the GHG Guideline.	
	State Environmental Planning Policy (Transport and Infrastructure) 2021 (Infrastructure SEPP)	**Electricity Transmission or Distribution** Section 2.48 of the Infrastructure SEPP identifies that where development is proposed to be carried out within or immediately adjacent to an easement for electricity purposes, immediately adjacent to an electricity substation or within 5 metres (m) of an exposed overhead electricity power transmission line the consent authority must give written notice to the electricity supply authority, inviting comments about potential safety risks and take into consideration any response received. Bowdens Silver acknowledges that the BSP could require the realignment of a 500kV power transmission line that traverses the Mine Site. As outlined in Section 3.2.2.2 of the EIS, TransGrid has identified there is 'no engineering reason for the line relocation to be unfeasible' and that 'outages, constructability and design can all be managed'. **Railways and Rail Infrastructure Facilities** Section 2.98 of the Infrastructure SEPP identifies that, where development is in or adjacent to a rail corridor, the consent authority must give written notice to the rail authority for the rail corridor and take into consideration their response. Bowdens Silver proposes to construct a new railway crossing across the closed Wallerawang-Gwabegar Railway Line. As outlined in Section 3.2.2.2 of the EIS, Bowdens Silver has consulted with John Holland Rail Pty Limited (John Holland), manager of the Wallerawang-Gwabegar closed Railway Line who have provided Approval in Principle for the proposed bridge overpass subject to a range of conditions. Bowdens Silver has most recently consulted with UGL Regional Linx (UGLRL) as the relevant manager of the Wallerawang-Gwabegar Railway Line (which forms part of the Country Rail Network (CRN)).	**Electricity Transmission or Distribution** Section 2.48 of the Infrastructure SEPP has superseded Section 45 of the *State Environmental Planning Policy (Infrastructure) 2007.* **Railways and Rail Infrastructure Facilities** Section 2.98 of the Infrastructure SEPP has superseded Section 85 of the *State Environmental Planning Policy (Infrastructure) 2007.* UGLRL have taken over as the manager of the Wallerawang-Gwabegar Railway Line. **Road Infrastructure** Section 2.119 of the Infrastructure SEPP supersedes Section 101 of the former *State Environmental Planning Policy (Infrastructure) 2007.*

Category	Relevant Provisions	Application to the BSP	Relevant Updates
		Road Infrastructure Section 2.119 of the Infrastructure SEPP identifies that where a development has a frontage to a classified road, development consent must not be granted unless the consent authority is satisfied that: • Vehicular access to the land is provided by a road other than the classified road; • The safety, efficiency and ongoing operation of the classified road will not be adversely affected by the design of the vehicular access to the land, the emission of smoke or dust from the development or the nature, volume or frequency of vehicles using the classified road to gain access to the land; and • The development is of a type that is not sensitive to adverse impacts from the classified road. The BSP includes a separate mine access road providing access from the proposed relocated Maloneys Road. Assessment of the safety and efficiency of the classified road network has been assessed by the Transport Planning Partnership (see Volume 4 Part 11 of the EIS) and air quality has been assessed by Ramboll (see Volume 1 Part 2 of the EIS). Given that dust levels are predicted to comply with the deposited dust criteria, dust emissions are not considered likely to have any significant impact upon the classified road network. The BSP is also not considered sensitive to adverse impacts from the classified road network.	
	Section 3.8 of *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (Biodiversity SEPP)	If a development is located on 'core koala habitat' (as defined in the Biodiversity SEPP), there must be a plan of management in place, and the consent authority must determine the application consistent with the plan of management. Mid-Western Regional LGA is located within the Northwest Slopes Koala Management Area (KMA). Currently, no Koala Plan of Management has been prepared for the Northwest Slopes KMA. Notwithstanding, both policies require an investigation to be carried out to determine if any Koala feed trees are present within the Application Area and whether the land is core Koala habitat.	Section 3.8 of the Biodiversity SEPP supersedes the former *State Environmental Planning Policy (Koala Habitat Protection) 2019*.

Category	Relevant Provisions	Application to the BSP	Relevant Updates
		Schedule 1 Chapter 3 of the Biodiversity SEPP provides a list of tree species that are favoured feed tree species of Koala. An assessment of the potential for Koala habitat, including review of feed trees and Koala presence, has been undertaken by EnviroKey Pty Ltd. The results of the assessment are presented in Section 4.10.6.4 of the EIS.	
	State Environmental Planning Policy (Sustainable Buildings) 2022	Updates do not apply to the BSP because of savings and transitional provisions under clause 4.2 of the *State Environmental Planning Policy (Sustainable Buildings) 2022.*	The *State Environmental Planning Policy (Sustainable Buildings) 2022* supersedes the *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004.*
	Environmental Planning and Assessment Amendment (Flood Planning) Regulation 2023	The *Environmental Planning and Assessment Amendment (Flood Planning) Regulation 2023* was published on the NSW legislation website on 10 November 2023. It amended the *Environmental Planning and Assessment Regulation 2021* and replaced references to the *Floodplain Development Manual,* published by the NSW Government in April 2005, with references to the new *Flood Risk Management Manual,* published by the NSW Department of Planning and Environment (DPE) in June 2023. The *Standard Instrument (Local Environmental Plans) Amendment (Flood Planning) Order 2023* was also published on the NSW legislation website on 10 November 2023 and amended clauses 5.21 and 5.22 and Schedule 1 of the *Standard Instrument (Local Environmental Plans) Order 2006,* replacing references to the 2005 Manual with references to the 2023 Manual.	Amendments have been made to the following instruments: • *Environmental Planning and Assessment Amendment (Flood Planning) Regulation 2023;* • *Environmental Planning and Assessment Regulation 2021;* and the • *Standard Instrument (Local Environmental Plans) Order 2006.* These updates include the replacement of references to the *Floodplain Development Manual* (NSW Govt, 2005) with the new *Flood Risk Management Manual* (DPE, 2023). These changes had no material effect to the assessments previously completed for the BSP.

Category	Relevant Provisions	Application to the BSP	Relevant Updates
	Central West and Orana Regional Plan 2041 (CWO Regional Plan)	A key direction of the CWO Regional Plan is to protect the region's diverse and productive agricultural land by managing the interface between important agricultural land and other land uses. Mapping of BSAL is one action that has been conducted to facilitate the protection of agricultural land in the region. It is noted that the sustainable management of mineral resources, including the protection of areas with potential mineral and energy resources, is also identified as a key direction within the CWO Regional Plan. In accordance with Section 30 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), the development application is accompanied by a SVC dated 8 November 2017 which confirms that there is no contiguous BSAL within the Boundary of the Mine Site.	The CWO Regional Plan has superseded the *Central West Orana Regional Plan 2036*. The updated plan continues to emphasise the importance of protecting the region's diverse and productive agricultural land by effectively managing the interface between significant agricultural areas and other land uses.
	Dark Sky Planning Guideline	The Siding Spring Observatory (Observatory), situated on the eastern boundary of Warrumbungle National Park near Coonabarabran approximately 168 kilometres (km) from the Mine Site, requires the night sky to be free from light pollution as it reduces the ability of the optical telescopes at the Observatory to operate effectively. The *Dark Sky Planning Guideline* (DPE, 2023) was updated. *The Dark Sky Planning Guideline* provides guidance and technical information on lighting design requirements for developments within the Dark Sky Region – an area which comprises that land within a 200 km radius of Siding Spring Observatory. Section 184 of the EP&A Regulation requires the consent authority to consider the requirements of the *Dark Sky Planning Guideline* for SSD proposals located within 200 km of the Observatory. As the Mine Site is located within the Dark Sky Region, the potential impacts of the BSP on the Observatory were assessed within the results of the Lighting and Sky Glow Assessment (refer to Volume 3 Part 8b of the EIS). A review of this assessment to the latest version of the *Dark Sky Planning Guideline* (DPE, 2023) has confirmed that the assessment within the EIS remains valid.	The *Dark Sky Planning Guideline* (DPE, 2023) has superseded the *Dark Sky Planning Guideline* (DPE, 2016). The updated guideline includes more comprehensive guidance on managing light pollution, updated maps, and improved usability to better protect the observing conditions at Siding Spring Observatory.

Category	Relevant Provisions	Application to the BSP	Relevant Updates
	Mid-Western Region Towards 2040 Community Plan (Towards 2040 Community Plan)	The Towards 2040 Community Plan outlines the strategic direction for the Mid-Western Regional LGA. This plan was developed in collaboration with local community and identifies the five focus areas of focus: 1. Looking after our Community – vibrant towns and villages with a rich history, a safe and healthy community, and a strong sense of community pride. 2. Protecting our Natural Environment – conserving and promoting the natural beauty of the region. 3. Building Strong Local Economy – a focus on building a prosperous and diversified economy delivering lifestyle benefits to the community through employment, income and sustainable economic growth. 4. Connecting our Region – linking towns and villages and connection to the rest of NSW. 5. Good Government – ensuring Council is representative of the community and effectively meeting community needs. Key goals identified within the Towards 2040 Community Plan that are relevant to the BSP include: • Minimising the impacts of mining operations in the region; • Encouraging the development of a skilled and flexible workforce to satisfy local industry and business requirements; and • Supporting projects that create new jobs in the Region and help to build a diverse and multi-skilled workforce. The BSP will assist the region in achieving its goals in relation to economic and employment opportunities, especially given the significant investment it will bring to the region. The diversification of mining, i.e. developing mines other than coal mines, has the potential to result in a range of different skills training. Furthermore, the BSP has been designed to mitigate, minimise or avoid potential impacts to the environment to the greatest extent practicable. As such, the BSP will not limit the achievement of the strategic goals outlined in the Towards 2040 Community Plan.	The Towards 2040 Community Plan supersedes the *Mid-Western Region Towards 2030 Community Plan*. The updated plan outlines the community's vision for the future, setting new goals and strategies to guide development and growth in the region up to the year 2040.

4. THE SINGLE PROPOSED DEVELOPMENT

4.1 SUMMARY

The EP&A Act is the principal legislative instrument governing development in NSW.

Bowdens Silver seeks the re-determination of the previously approved SSD-5765.

Section 4.38(4A) of the EP&A Act enables DPHI to determine whether associated development does or does not form part of a single proposed development that is SSD. This report has been prepared pursuant to the Planning Secretary's determination that the proposed powerline is not part of the single proposed development subject of SSD-5765 in accordance with Section 4.38(4A) of the EP&A Act and that the single proposed development subject of SSD-5765 includes the lands and infrastructure required for open cut mining and processing of ore, and the production of silver/lead and zinc concentrates including associated management of water resources, waste rock and tailings materials as described in:

3. *Development Application Case ID SSD-5765,* lodged on 14 May 2020, available on the NSW Planning Portal;
4. *Bowdens Silver Project Environmental Impact Statement: State Significant Development No. 5765* (RW Corkery & Co. Pty. Limited, 2020);
5. *Amendment Report for the Bowdens Silver Project* (RW Corkery & Co. Pty Limited, 2021); and
6. *Water Supply Amendment Report for the Bowdens Silver Project* (RW Corkery & Co. Pty Limited, 2022).

The single proposed development subject of SSD-5765 also includes the 'relocated Maloneys Road' (a public road) which would provide access to the BSP from Lue Road west of Lue and would comprise a relocated section of Maloneys Road, a new railway bridge overpass and a new road crossing of Lawsons Creek and other road works and upgrades, as described the documents numbered 1, 2, 3, and 4 in the previous paragraph.

Whilst the proposed powerline is the preferred electricity supply to the BSP, the proposed powerline is predominantly located external to the BSP mine site (subject to SSD-5765) and requires separate consideration of the final alignment/route/design in consultation with Endeavour Energy (EE) and in agreement with any directly impacted landholders and public authorities.

5. NETWORK AUTHORISATION & CONNECTION

5.1 AUTHORISATION PROCESS

The proposed powerline is intended to provide electricity from the existing 66kV transmission line located in the Camboon / Breakfast Creek area to the BSP Project area. The existing 66kV transmission line at Camboon / Breakfast Creek is managed by EE.

The proposed powerline will need to be constructed and designed in accordance with EE requirements as the electricity supply authority for this region. As an Authorised Network Operator (ANO) and determining authority, EE is required to follow the *NSW Code of Practice for Authorised Network Operators* (NSW Department of Planning and Environment, 2015; Code of Practice). ANOs must comply with the Code of Practice in accordance with their licence under the *Electricity Supply Act 1995* (ES Act). Community consultation and notification is undertaken in accordance with the Infrastructure SEPP, EP&A Act, and the ES Act. Projects classified as Class 4 and 5 require additional consultation requirements as outlined in the Code of Practice, and these requirements are to be detailed in a Consultation Protocol that is to be made publicly available. EE's Consultation Protocol is titled Consultation Protocol for Review of Environmental Factors for Class 4 and 5 Activities: In accordance with the NSW Code of Practice for Authorised Network Operators (EE, 2020) and is publicly available here:

https://www.endeavourenergy.com.au/__data/assets/pdf_file/0027/63783/Consultation-Protocol-for-Review-of-Enviro-Factors-for-Class-4-and-5-Activities_Final_11.08.20.pdf

5.2 ENDEAVOUR ENERGY CONNECTION PROCESS

Bowdens Silver has accepted a Connection Offer from EE which notes their willingness to supply power via the proposed powerline. The Connection Offer accepted by Bowdens Silver is in accordance with EE's *Model Standing Offer for a Standard Connection Service (Subdivision and Asset Relocation) Terms and Conditions December 2017* (EE, 2017). This document details the terms and requirements for developers seeking standard connection services for assets, including:

- General Obligations: Responsibilities of developers, including work, health, safety, and public lighting requirements. Also, obligations with respect to timing of works, access rights, payment details, risk and liability, complaints resolution, and confidentiality;
- EE Obligations: Standard connection services to be undertaken by EE (i.e. distribution works required for shared network);
- Proposed Method of Supply (PMoS): Steps associated with the preparation and approval of the network connection design.
- Construction of Network Connection Works: Steps for preparation of a network connection works program, construction requirements, and communication process; and
- Requirements associated with Grant of Leases, easements or licences: Outline of the developer's duties and the rights of EE.

With Bowdens Silver having accepted the Connection Offer, the next step is for their nominated Level 3 accredited service provider (ASP) to submit a PMoS to EE for approval. The PMoS must include the proposed powerline design (including alignment) and document the environmental assessment. Bowdens Silver can proceed with developing the PMoS once the proposed powerline alignment is finalised and the applicable Class under the ANO Code of Practice is determined. After EE approves the PMoS, Bowdens Silver would engage a Level 1 ASP for powerline construction and service connection from the network assets to the BSP.

6. POWERLINE ROUTE

6.1 SUMMARY

Bowdens Silver is proposing to power the BSP with electricity supplied via the proposed powerline, which will involve installation of a new 66kV powerline connecting an onsite substation at the premises to the electricity distribution network.

Although a final alignment is yet to be finalised, Bowdens Silver is preferentially investigating options to connect to the existing EE 66kV electricity transmission network that runs from Ilford to Bylong, with a connection in the Camboon / Breakfast Creek area. **Figure 2** illustrates the locality of the proposed powerline which encompasses an area within which route options currently under consideration are located. The area is approximately 14 km in length and 1 km wide and encompasses a larger area than would be required for the construction of the proposed powerline.

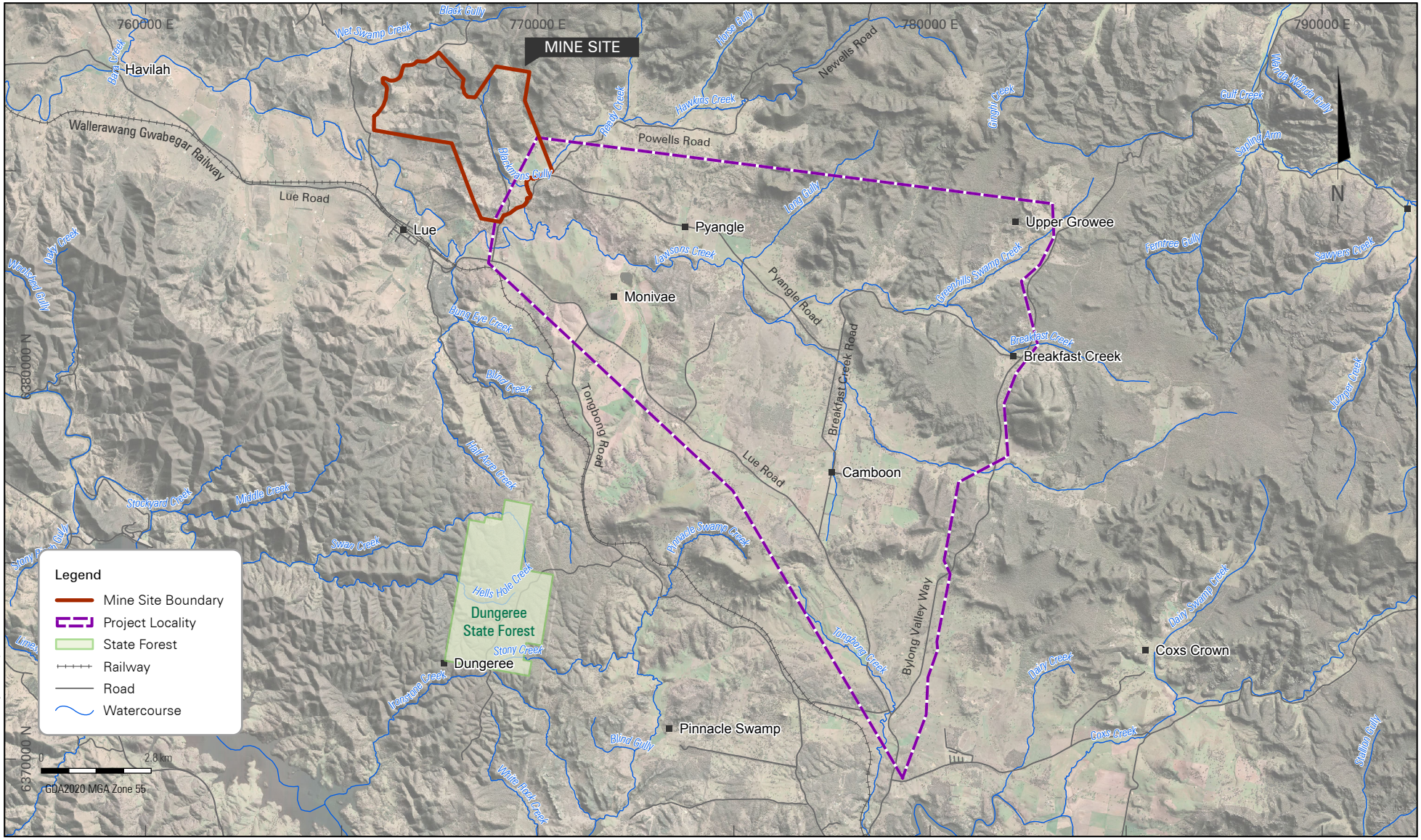
The proposed powerline may be located above and/or below ground. Above ground sections of the powerline may be supported by timber, concrete and/or other types of poles. Any final design will be in accordance with EE design specifications.

The construction of the proposed powerline will require various disturbances to the existing environment and include the establishment of:

- A powerline easement approximately 20 km's long by approximately 18 metres wide, where any woodland vegetation will need to be removed and/or managed to maintain adequate clearances;
- Pads for the installation of power poles and/or underground cables;
- Access tracks for construction and ongoing inspection and maintenance of the powerline infrastructure;
- Installation of sediment and erosion controls; and
- Laydown pads for construction equipment.

These disturbances have the potential to lead to impacts to sensitive environmental aspects (ecology, heritage and water quality) as discussed within the following sections.

EE is the responsible electricity supply authority for the existing 66kV electricity transmission network from Ilford to Bylong. Bowdens Silver has been in ongoing discussions with EE in relation to the proposed powerline design considerations and the EP&A Act planning pathway for this infrastructure. Following its construction by Bowdens Silver, EE will own and be responsible for the management and maintenance of the powerline.



BOWDENS SILVER PROJECT

Locality Plan

FIGURE 2

6.2 LANDOWNER CONSENT

6.2.1 Requirement for Landowners Consent

Bowdens Silver owns several parcels of land in the study area. Land within the vicinity of the alignments being considered for the proposed powerline comprises Local Public Roads corridors, Crown Land and private freehold land.

The proposed powerline may entail works in or over land owned by both private landowners and public authorities. Accordingly, relevant agreements will be required with these landowners for access and construction of the proposed powerline through these landholdings. Access arrangements will need to be obtained for key stages, including:

- Preliminary field investigations and environmental and engineering inspections;
- Geotechnical engineering studies;
- Construction; and
- Operation.

Additionally, in the event the proposed powerline is located partly or wholly within a public road corridor, the consent of the relevant roads authority will be required. Temporary Local Road closures will be required to install underground cable or above ground crossings for the proposed powerline. The consent of the MWRC, which is the relevant roads authority, will be required for such works.

Bowdens Silver has been and will continue to consult with the MWRC and landowners who may be directly affected by the alignment of the proposed powerline to reach the relevant agreements to construct and operate the proposed powerline.

6.3 BIODIVERSITY

Background

A desktop Biodiversity Constraints Assessment (BCA) was undertaken by AREA Environmental & Heritage Consultants (AEHC) to determine the likely ecological constraints associated with the construction of the proposed powerline.

The desktop BCA is provided within **Appendix B** with a summary provided in the following sections.

Methodology

The desktop BCA identifies the biodiversity values within a study area that have the potential to be impacted as a result of the proposed powerline. The BCA study area encompasses a larger area than would be required for the construction of the proposed powerline. The final design and alignment of the proposed powerline will consider adjustment of the alignment to avoid and/or minimise potential biodiversity constraints such as those identified within the desktop BCA.

AEHC completed a desktop review of all relevant databases and available literature to identify threatened flora and fauna species, populations and ecological communities, migratory species or critical habitat recorded previously or predicted to occur within the locality of the proposed powerline routes being considered.

Preliminary Impact Assessment

Substantial portions of the study area have previously been cleared for agricultural purposes. The NSW Native Vegetation Regulatory (NVR) map illustrates this cleared land as Category 1 Land in accordance with the *Local Land Services Act 2013.*

The study area also contains remnant native vegetation, including forests. These areas are classified on the NVR map as Category 2 – regulated land, Category 2 – vulnerable regulated land and Category 2 – sensitive regulated land.

Areas of Category 2 land mapped on the NVR map (generally along ephemeral drainage lines within the region) are also mapped as high biodiversity value according to the NSW Biodiversity Values Map, and Key Fish Habitat according to the Fisheries NSW Spatial Data Portal.

Twenty-six Plant Community Types (PCTs) are identified within vegetation mapping for the study area. Twelve of these PCTs are associated with six Threatened Ecological Communities (TECs) listed in **Table 2**.

Table 2 TECs and Associated PCTs within the BCA Study Area

TEC	BC Act Conservation Status	EPBC Act Status	Associated PCT
Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions	Endangered	N/A	201
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	Critically Endangered	N/A	266, 277, 281, 654, 1103, 1330, 3376, 3388, 3396
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	N/A	Critically Endangered	266, 277, 281, 654, 1103, 1330, 3376, 3388, 3396
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	Endangered	N/A	1103
Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Endangered	N/A	1737
Central Hunter Valley eucalypt forest and woodland	N/A	Critically Endangered	3497

Nine threatened species have been previously recorded within the study area according to Bionet Sighting records. **Table 3** lists the species, along with their BC Act conservation status and EPBC Act status. Of the nine listed, four are also declared as being vulnerable or endangered under the EPBC Act.

Table 3 Threatened Species Previously Recorded within the BCA Study Area

Species	Type	BC Act Conservation Status	EPBC Act Status
Koala (*Phascolarctos cinereus*)	Mammal	Endangered	Endangered
Grey-crowned Babbler (eastern subspecies) (*Pomatostomus temporalis temporalis*)	Bird	Vulnerable	N/A
Diamond Firetail (*Stagonopleura guttata*)	Bird	Vulnerable	Vulnerable
Scarlet Robin (*Petroica boodang*)	Bird	Vulnerable	N/A
Small Purple-pea (*Swainsona recta*)	Flora	Endangered	Endangered
Spotted-tailed Quoll (*Dasyurus maculatus*)	Mammal	Vulnerable	Endangered
Capertee Stringybark (*Eucalyptus cannonii*)	Flora	Vulnerable	N/A
Square-tailed Kite (*Lophoictinia isura*)	Bird	Vulnerable	N/A
Speckled Warbler (*Chthonicola sagittata*)	Bird	Vulnerable	N/A

As outlined within **Section 6.1**, the construction of the proposed powerline will result in some degree of clearing and disturbance in accordance with relevant planning authorisations. This may include clearing of TEC's and habitat for threatened fauna species that have been identified above, as well as areas that have previously been heavily disturbed and comprise lower biodiversity values. Depending on the precise route selected the maximum amount of vegetation disturbance required for the construction of the powerline would be approximately 30 hectares.

As the proposed powerline is a linear infrastructure project, impacts to biodiversity can be avoided and/or minimised through the following measures:

- **Route selection:** The alignment of the powerline and siting of power poles can be adjusted to avoid and/or minimise the impact on sensitive biodiversity features, such as Category 2 classed land and woodland areas of TECs;
- **Use of existing infrastructure corridors/disturbed areas:** Constructing the proposed powerline underground and below the existing road corridors where practicable can be undertaken to avoid clearing of sensitive vegetation and minimise habitat fragmentation. In addition, the use of current road corridors to provide access for construction activities and existing roadside laydown areas to store construction materials can minimise and avoid unnecessary disturbance; and
- **Underground cable installation:** In instances where the proposed powerline must cross watercourses or sensitive biodiversity features, underground cable installations may be used where this is practicable using the Horizontal Directional Drilling (HDD) method. The HDD method eliminates the need for extensive excavation or trenching, thereby reducing the level of ground disturbance on these sensitive features.

In addition, the short duration of the construction period, estimated to be less than 6 months, will ensure that long-term impacts are minimised. Consequently, based on the available mitigation measures for powerline construction, the overall potential for impact on sensitive ecological features as a result of the construction and operation of the proposed powerline is considered to be minor.

6.4 ABORIGINAL CULTURAL HERITAGE

6.4.1 Background

An Aboriginal Cultural Heritage Constraints Assessment (ACHCA) was undertaken by Landskape Natural and Cultural Heritage Management (Landskape) to identify the potential risks of the proposed powerline to known Aboriginal Cultural Heritage items.

A copy of the ACHCA is provided within **Appendix C** with a summary provided in the following sections.

6.4.2 Methodology

The ACHCA followed the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (Code of Practice) (DECCW, 2010). Predictive modelling was complemented with a field inspection to determine the sensitivity of certain landforms to contain Aboriginal objects.

The ACHCA applied the Code of Practice to meet the following objectives:

- Determine whether Aboriginal objects are, or are likely to be, present in the vicinity of the potential alignments being considered for the proposed powerline;
- Determine whether the proposed powerline is likely to harm Aboriginal objects (if present);
- Determine whether an Aboriginal Heritage Impact Permit (AHIP) is required; and
- Provide management recommendations.

6.4.3 Preliminary Impact Assessment

The ACHCA identified twelve Aboriginal cultural heritage sites have previously been recorded in route corridors being considered within the ACHCA study area (search number 950475; Attachment 1 in the ACHCA). These sites include nine stone artefact sites, two axe grinding groove sites, and one potential archaeological deposit.

'Landscape Features' as described in the Code of Practice were identified to be present within the ACHCA study area. Landscape Features include landforms within 200 m of watercourses (Lawsons Creek, Breakfast Creek, Reedy Creek, Long Gully and other unnamed waterways) as well as land within 200 m of cliff faces.

The land within the locality has experienced varying levels of previous disturbance. Some portions of land within the ACHCA study area qualify as 'disturbed land' according to the Code of Practice. The extent of past ground and surface disturbance was assessed through analysis of historical aerial imagery from 1990-2024. The formed gravel roads of the ACHCA study area have historically been cleared of all understorey shrubs and woodland vegetation.

In farmland areas, disturbance is less extensive and primarily involves tree clearance. Some areas of farmland have been cultivated for agricultural crops. There are also some undisturbed areas within stands of remnant woodland and areas of woodland along creek lines.

No previously unrecorded Aboriginal sites were identified during the visual inspection by Landskape on 5 November 2024. The visual inspection focused on validating the results of the desktop assessment, especially the effects of past land use disturbance in the area.

The land within the locality has been assessed as having a low risk for Aboriginal objects within disturbed land and a moderate risk for Aboriginal objects for undisturbed land.

As outlined within **Section 6.1**, the construction of the proposed powerline will result in some clearing and disturbance. These ground disturbance activities may result in impacts to Aboriginal cultural heritage items identified above. As a linear infrastructure project, the alignment and power pole locations can be adjusted to avoid and/or minimise adverse impacts to identified Aboriginal cultural heritage items.

6.5 OTHER POTENTIAL ENVIRONMENTAL IMPACTS

Table 4 addresses the other environmental aspects that may be impacted by the proposed powerline.

Table 4 Summary of Other Potential Environmental Impacts

Aspect	Potential Impact Summary
Air Quality and Greenhouse Gas	Local air quality in the vicinity of the study area is influenced by: • Dust carried by wind generated from exposed areas; • Background dust emissions from agricultural activities, particularly during dry periods; • Dust due to vehicle movements along unsealed and, to a lesser degree, sealed roads; • Seasonal emissions from household wood heaters; • Occasional emissions from bushfires; and • Transport of fine particles from distant sources into the region (Ramboll Australia Pty Ltd, 2020). The construction activities are the main component of the proposed powerline with the potential to generate localised dust emissions. It is unlikely these impacts will be significant and will be able to be appropriately managed utilising standard controls. Potential greenhouse gas (GHG) emissions for the proposed powerline would include fuel use for construction equipment and during the ongoing maintenance activities. It is likely that the construction and operation of the proposed powerline would result in negligible air quality and GHG impacts.
Noise	Background noise in the vicinity of the study area is typical of an undeveloped rural environment, featuring negligible industrial noise and several active roads. Key noise sources within the area include: • Vehicles travelling on Lue Road, Pyangle Road, Powells Road, Breakfast Creek Road, and Bylong Valley Way; • Sporadic light aircraft; • Rural and domestic generated noise from tractors, lawn mowers etc; • Rural fauna noise such as birds, insects and stock; • Natural rural noise such as wind in the trees; and • No industrial, commercial or intensive agricultural activities, with no observed or measured industrial noise contributions (SLR, 2020). There are less than 20 residences located proximate to the study area who may experience minor noise impacts. The main noise impacts associated with the proposed powerline will be from the use of mobile equipment to construct the proposed powerline as well as the temporary increase in transport movements on local roads to deliver the materials for construction. In addition, vehicle movements associated with servicing and maintenance of the proposed powerline would be infrequent and would not be expected to cause material noise impacts. Construction activities are likely to occur during daylight hours only. Therefore, it is considered unlikely the proposed construction activities would result in any significant noise impacts at sensitive receivers.

Aspect	Potential Impact Summary
Visual Amenity	A Visibility Assessment was prepared by Richard Lamb & Associates (RLA) (2020) for the BSP. According to RLA (2020), the blend of natural vegetated backdrops, complex topography and cleared or partially cleared rural land with some rock outcrops results in a moderate to moderate-high scenic quality. RLA (2020) considered that broader landscape had similar features. Powerline construction activities and the presence of equipment and machinery would cause minor visual impacts during the construction phase only. These works might be visible from nearby roads and certain dwellings. Changes to the scenic landscape because of the proposed powerline would include: • Vegetation clearing, which would be minimised through use of existing cleared land; • Vertical poles for the powerline; • Wires between poles; and • Earth moving and other equipment will be used during construction activities. These changes are unlikely to result in significant adverse visual impacts to neighbouring residents.
Traffic and Transport	The traffic levels because of the proposed powerline are likely to be highest during construction activities. Construction activities may require temporary road closures to install underground cable crossings. Background traffic flows on these local roads are minimal and accordingly impacts resulting from the proposed construction works will be minimal.
Hydrology	The construction associated with the proposed powerline will result in the disturbance to the ground vegetation and soils. Ground disturbance has the potential for impacts to surrounding watercourses through erosion and sedimentation. The construction of the proposed powerline will potentially involve the installation of surface infrastructure and underground cable crossings for powerlines below watercourses. These underground installations will be undertaken utilising standard practices implemented to avoid adverse impacts to surface water and groundwater resources. During the construction of the proposed powerline, potential impacts to surface water can be minimised by placing infrastructure away from watercourses and by implementing erosion and sediment control measures following the guidelines in *Managing Urban Stormwater Soils and Construction* (Department of Environment and Climate Change, 2008). The following watercourses are within the proposed powerline route options being considered for the powerline: • Hawkins Creek; • Lawsons Creek; • Reedy Creek; • Long Gully; and • Breakfast Creek. Indirect impacts on these watercourses are unlikely because of the short-term nature of and limited amount of ground disturbance required, provided that appropriate sediment and erosion control management measures are implemented during construction and decommissioning.

Aspect	Potential Impact Summary
Historic Heritage	A Historic Heritage Impact Assessment (HHIA) was prepared by Landskape for the BSP (Landskape, 2020). The study area is located outside the areas assessed by the HHIA. The types of historical heritage sites that occur on the southwest slopes include the following: • Pastoral Sites – These include homesteads and associated structures, but also include less evident sites like survey markers, particularly those blazed on Cypress Pine and Eucalypt trees, which also hold historical significance; • Urban Sites – These include commercial, public and residential buildings of historical significance from the nineteenth and early twentieth centuries; • Industrial Sites – Although rare, these sites include abandoned mine sites and sawmills which may contain abandoned machinery and sheds; and • Transport Sites – These include railway sites or associated structures, and small bridges constructed from stone cobbles or River Red Gum timber. A basic search on *Miners and Explorers Map* on the NSW SEED environmental data portal was undertaken on 17 January 2025 to identify the presence of known historic cultural sites. There were no known sites within the study area. Schedule 5 of the Mid-Western LEP identifies a number of locally significant Historic Heritage sites within the LGA, including those proximate to Lue. The proposed powerline has the potential to directly (during construction) and indirectly impact heritage items which may be present within the vicinity of the routes being considered for the proposed powerline. The proposed powerline alignment can be adjusted to avoid potential impacts to these registered heritage items. Consequently, the potential historic heritage impacts of the proposed powerline are considered negligible. The linear nature of the proposed powerline also means the alignment can be developed to avoid impacts to any historic heritage items.
Social and Economic	The proposed powerline would fulfill the electricity needs of the BSP. Consequently, it will offer indirect social and economic benefits by ensuring power security for the BSP. This will, in turn, benefit the local and regional economy. Sensitive receivers in the vicinity of the proposed powerline routes being considered may experience short-term amenity impacts during construction and decommissioning. Minor, short-term impacts may also occur to agricultural activities during construction and commissioning. The potential impact on property values is influenced by various factors, such as proximity to the powerlines, location and land quality. Given that the amenity impacts are anticipated to be minor and occur primarily during construction and decommissioning, significant effects on property values are unlikely. Ongoing consultation with impacted landholders through the design and construction process is anticipated to mitigate these potential impacts.
Cumulative	There are no major existing or approved industrial developments located in the vicinity of the proposed BSP and proposed powerline study area. The existing Moolarben Coal Complex, Wilpinjong Mine and Ulan Mine are located between 30 km to 40 km from the proposed powerline routes being considered. As a result, the potential air quality and noise emissions and other potential impacts that would be generated by the proposed powerline are negligible in the context of the proposed BSP development.

7. CONCLUSIONS

This report was prepared to address DPHI's RFI, as outlined in the DPHI letter to Bowdens Silver dated 9 December 2024. It aims to assist DPHI in completing its updated assessment of SSD-5765 for the IPCs consideration during the re-determination of the BSP.

The review of the statutory framework has identified several legislative changes; however, this has resulted in minimal changes to previous assessment processes. A revised GHG assessment has been prepared in accordance with the current GHG Guidelines.

Bowdens Silver is proposing to power the BSP with electricity supplied via a 66kV powerline connecting an onsite substation to the electricity distribution network, with the final alignment yet to be determined. Bowdens Silver is preferentially investigating an option to connect to the existing EE 66kV electricity transmission network that runs from Ilford to Bylong, connecting in the Camboon / Breakfast Creek area. Bowdens Silver expects to construct the proposed powerline in consultation with and on behalf of EE who is the electricity supply authority for the region and will own and take responsibility for the ongoing service and maintenance of this infrastructure once constructed.

The Planning Secretary determined on 23 May 2025 that the proposed powerline does not form part of the single proposed development that is SSD-5765.

The final alignment of the proposed powerline has not been determined. Additionally, relevant landholder agreements, electricity network agreement with EE and relevant environmental studies have not been finalised. The likely impacts have been considered within this report and found to be minor, provided that appropriate management measures are implemented during the design and construction activities. Bowdens Silver has been and will continue to consult with the public authorities and freehold landowners whose property the final alignment of the proposed powerline may be located on, to reach the relevant agreements to construct and operate the proposed powerline.

In conclusion, this review has confirmed the proposed powerline is not expected to result in any material environmental or social impacts. No significant obstacles from an environmental impact perspective have been identified that would prevent the construction and operation of the proposed powerline between the BSP and the existing electricity distribution network. The proposed powerline will enable the BSP to deliver very material direct and indirect economic benefit to the local, State and National economies.

8. REFERENCES

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9. ABBREVIATIONS

Abbreviation	Meaning
ACHCA	Aboriginal Cultural Heritage Constraints Assessment
AEHC	Area Environmental & Heritage Consultants
ANGAF	*Australian National Greenhouse Accounts Factors* (DCCEEW, 2024)
ANO	Authorised Network Operator
BC Act	*Biodiversity Conservation Act 2016*
BCA	Biodiversity Constraints Assessment
Biodiversity SEPP	*Environmental Planning Policy (Biodiversity and Conservation) 2021*
BSAL	Biophysical Strategic Agricultural Land
BSP	Bowdens Silver Project
CIC	Critical Industry Cluster
Climate Change Policy	*NSW EPA Climate Change Policy*
CRN	Country Rail Network
CWO Regional Plan	*Central West and Orana Regional Plan 2041*
DCCEEW	Australian Department of Climate Change, Energy, the Environment and Water
DPHI	Department of Planning, Housing and Infrastructure
EIA	Environmental Impact Assessment
EIS	*Bowdens Silver Environmental Impact Statement: State Significant Development No. 5765* (EIS) (R.W. Corkery & Co Pty. Limited, 2020)
EPA	Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EP&A Act	*Environmental Planning & Assessment Act 1979*
ES Act	*Electricity Supply Act 1995*
GHG	Greenhouse Gas
GHG Guideline	*NSW EPA Guide for Large Emitters* (EPA, 2025)
HHIA	Historic Heritage Impact Assessment
IPC	Independent Planning Commission
Infrastructure SEPP	*State Environmental Planning Policy (Transport and Infrastructure) 2021*
KMA	Koala Management Area
LEC	Land and Environment Court

Abbreviation	Meaning
LEP	Local Environment Plan
LGA	Local Government Area
MLA	Mining Lease Application
MWRC	Mid-Western Regional Council
NGAF	*National Greenhouse Accounts Factors* (Australian Government Department of Environment and Energy (DEE), 2018)
NGER Act	*National Greenhouse and Energy Reporting Act 2007*
NSW	New South Wales
NSWCA	New South Wales Court of Appeal
NVR	Native Vegetation Regulatory
Planning SEPP	*State Environmental Planning Policy (Planning Systems) 2021*
POEO Act	*Protection of the Environment Operations Act 1997*
PMoS	Proposed Method of System
REF	Review of Environmental Factors
Resilience SEPP	*State Environmental Planning Policy (Resilience and Hazards) 2021*
Resources SEPP	*State Environmental Planning Policy (Resources and Energy) 2021*
RFI	Request for Information
Roads Act	*Roads Act 1993*
SER	Summary Environmental Report
SIS	Species Impact Statement
SSD	State Significant Development
SSI	State Significant Infrastructure
SVC	Site Verification Certificate
UGLRL	UGL Regional Linx

APPENDIX A

REVISED GREENHOUSE GAS ASSESSMENT

BOWDENS SILVER PROJECT

Bowdens Silver Project

Greenhouse gas assessment

Prepared for Bowdens Silver Pty Ltd

May 2025

Bowdens Silver Project

Greenhouse gas assessment

Bowdens Silver Pty Ltd

E241090 RP1

May 2025

Version	Date	Prepared by	Reviewed by	Comments
1	23 January 2025	S Fishwick	F Manansala	Final
2	28 May 2025	S Fishwick	F Manansala	Final V2

Approved by

Scott Fishwick
Associate Air Quality Consultant
28 May 2025

Level 10 201 Pacific Highway
St Leonards NSW 2065
ABN: 28 141 736 558

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1 Introduction

Bowdens Silver Pty Limited (Bowdens Silver) is proposing to develop and operate an open-cut mine, referred to as the Bowdens Silver Project (the project), to recover mineralised rock (ore) containing silver and small percentages of zinc and lead to depths of approximately 180 m.

The project would be supported by a range of infrastructure including a processing plant, waste rock emplacement (WRE), tailings storage facility (TSF) and ancillary components and infrastructure. The project would include extraction and processing of approximately 2 million tonnes of ore per year over an anticipated operational project life of 15 years.

The project is located approximately 26 km east of Mudgee and 2 km north-east of Lue in the Central Tablelands of NSW. The regional setting of the project is shown in Figure 1.1.

1.1 Project overview

The project comprises seven principal components, namely:

- a main open-cut pit and two satellite open-cut pits, collectively covering approximately 52 ha
- a processing plant and related infrastructure covering approximately 22 ha
- a WRE covering approximately 77 ha
- a low-grade ore stockpile covering approximately 14 ha (9 ha above WRE)[1]
- an oxide ore stockpile covering approximately 8 ha
- a TSF covering approximately 117 ha
- a southern barrier to provide visual and acoustic protection to properties south of the project covering approximately 32 ha.

The above components would be supported by a range of on-site and off-site infrastructure. The on-site infrastructure comprises haul roads, water management structures, power/water reticulation, workshops, stores, compounds and offices/amenities. The off-site infrastructure comprises a relocated section of Maloneys Road (including a new railway bridge crossing and new crossing of Lawsons Creek).

The layout of the project is shown in Figure 1.2.

The project would incorporate conventional open-cut pits (one main and two smaller, satellite pits), from which overburden/waste rock would be removed from above and around the silver-zinc-lead ore and either used for on-site construction activities or placed in the out-of-pit WRE or the southern barrier. The mined ore would be transported by haul trucks to the on-site processing plant where it would be crushed, milled and processed to liberate the silver, zinc and lead minerals. These minerals would be collected by conventional froth flotation to produce two concentrates that would be dewatered and transported off site by truck. The residual materials from processing (tailings) would be pumped in the form of a slurry to a TSF located to the west of the main open-cut pit.

[1] The low-grade ore stockpile would be constructed adjacent to but largely upon the northern sections of the WRE.

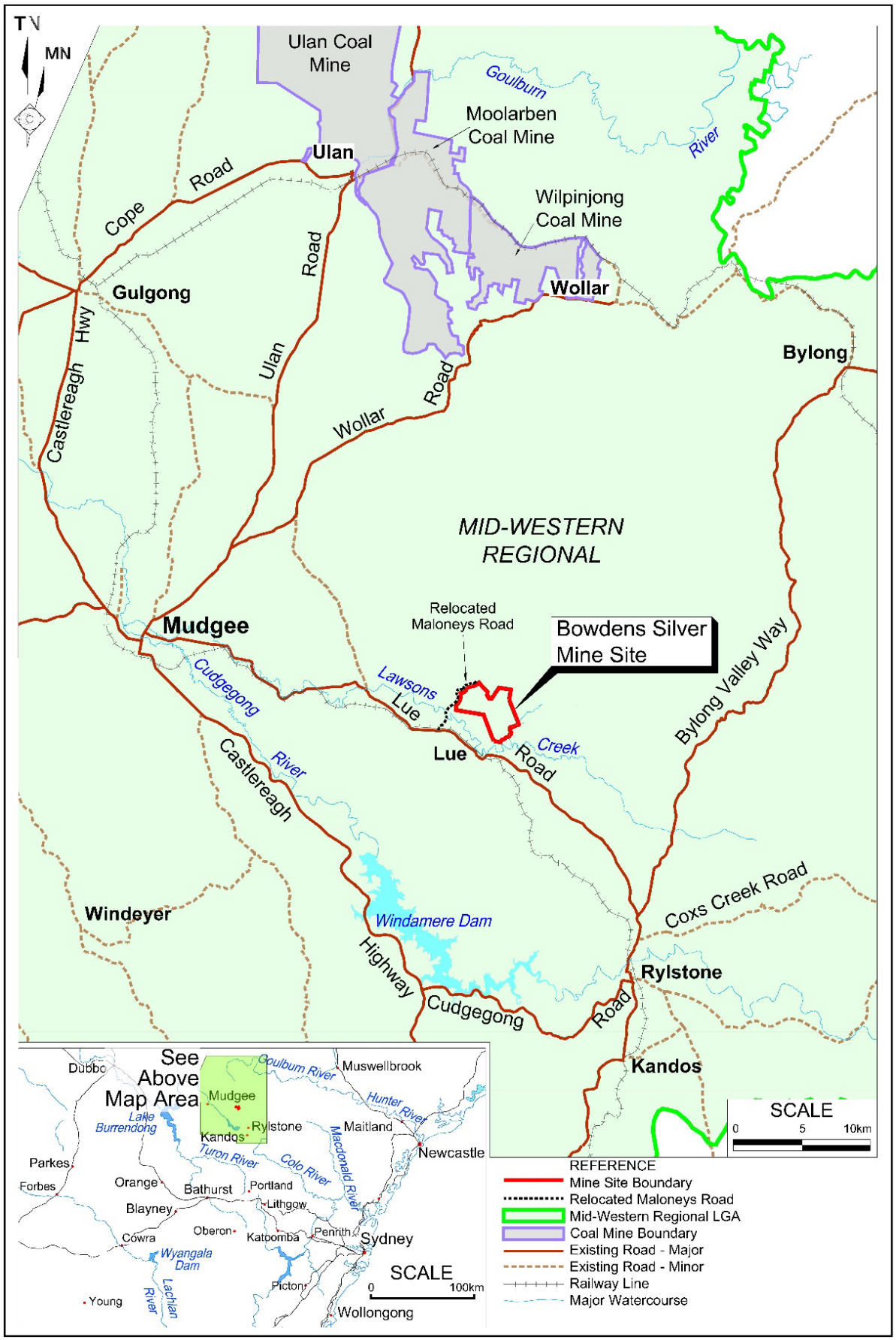

Figure 1.1 Regional setting

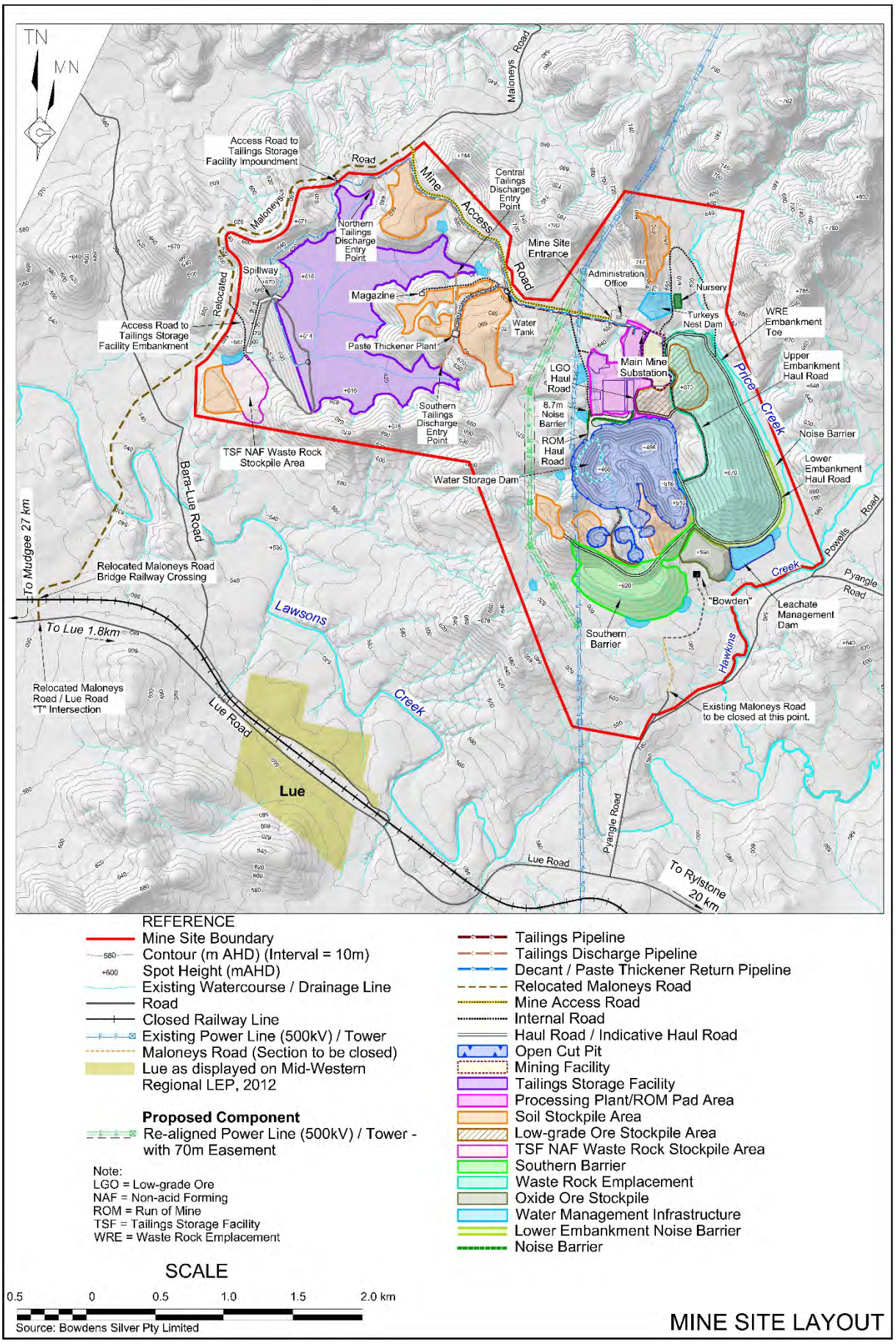

Figure 1.2 Project layout

The project would require a site establishment and construction period of approximately 18 months during which the processing plant and all related infrastructure and the initial embankment of the TSF would be constructed. Once operational, Bowdens Silver anticipates that the mine would produce concentrates for approximately 15.5 years. In total, it is proposed that the mine life would be approximately 16.5 years, i.e. from the commencement of the site establishment and construction stage to the completion of concentrate production. It is envisaged that rehabilitation activities would be completed over a period of approximately 7 years, i.e. from Year 16 to Year 23.

Figure 1.3 displays the duration of each of the main components throughout the project life. The estimated annual waste rock removal and ore production is shown in Table 1.1

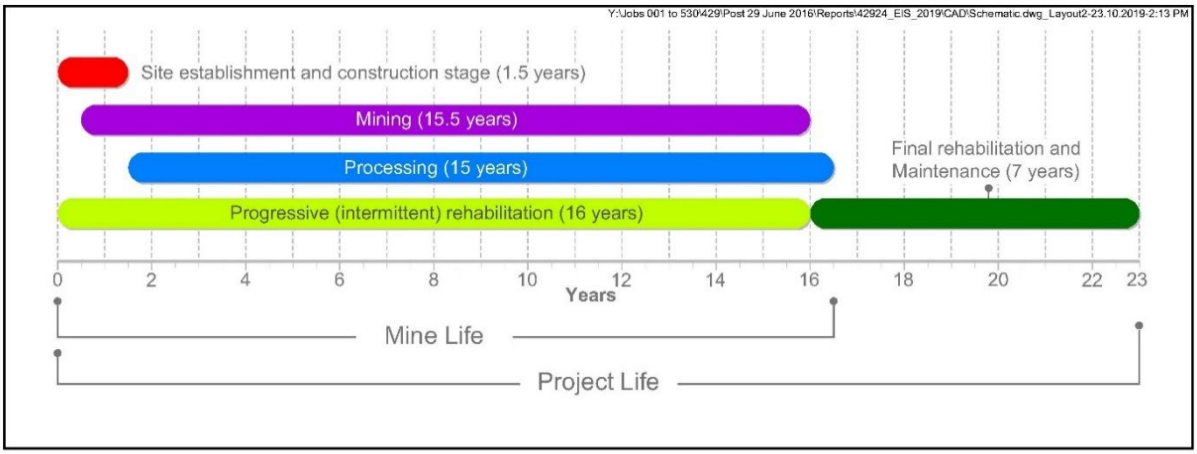

Figure 1.3 Proposed project life schedule

Table 1.1 Estimated annual waste rock and ore production

Operational year	Ore (tonnes per annum)			Waste rock (tonnes per annum)		Total (tonnes per annum)
	Ore	Low grade ore*	Oxide ore	Non-acid forming[1]	Potentially-acid forming[2]	
Site establishment and construction stage	113,722	27,212	94,467	3,886,107	1,201,545	5,323,052
1	1,744,717	260,511	293,439	927,755	2,773,578	6,000,000
2	1,908,260	228,710	237,645	2,433,037	1,192,348	6,000,000
3	1,702,839	411,050	338,161	2,057,928	1,490,023	6,000,000
4	1,955,782	575,512	96,984	1,712,068	1,659,655	6,000,000
5	2,010,709	505,487	-	1,601,690	1,882,114	6,000,000
6	2,070,259	504,965	1,463	1,109,668	1,313,645	5,000,000
7	2,048,673	435,549	144,594	909,633	1,408,766	4,947,215
8	1,477,833	368,361	255,872	1,720,556	1,177,379	5,000,000
9	498,246	203,257	263,882	2,381,835	1,652,780	5,000,000
10	1,313,773	338,695	56,406	807,046	2,484,080	5,000,000
11	1,377,297	474,018	-	200,188	2,948,498	5,000,000
12	1,679,457	568,307	-	49,706	2,702,531	5,000,000
13	1,661,617	427,979	-	19,573	1,413,339	3,522,508
14	1,501,122	498,878	-	588	1,061,239	3,061,827
15	769,451	230,549	-	-	221,093	1,221,093
Total	**23,833,753**	**6,059,040**	**1,782,913**	**19,817,378**	**26,582,611**	**78,075,696**

Source: AMC Consultants Pty Ltd

Notes: * Low grade ore treated in addition to ore when required SE&CS = site establishment and construction stage

1. <0.3% Sulphur content – Fresh, <0.3% Sulphur content – Oxide

2. >0.3% Sulphur Content

1.2 Purpose of this report

EMM Consulting Pty Ltd (EMM) has been engaged by Bowdens Silver to produce this greenhouse gas (GHG) assessment to support the application for the project. This report has been prepared to assess the GHG emissions for the project in accordance with recent changes in NSW government requirements and standards and will supersede the previous GHG assessment included within the Air Quality Assessment prepared by Ramboll Australia Pty Ltd (2020) for inclusion within the Environmental Impact Statement for the project.

The GHG assessment has been compiled in accordance with the NSW Environment Protection Authority (EPA) *NSW Guide for Large Emitters* (NSW EPA 2025). Chapter 3 outlines the assessment approach undertaken in line with the *NSW Guide for Large Emitters*, including the establishment of the assessment boundary, quantification of emissions and significance of emission sources.

Section 2 of the *NSW Guide for Large Emitters* describes the process for identifying whether a project is a large emitter of GHGs. EMM followed this process and concluded that the project would be a high emitter. Further details of this are provided in Chapter 4.

The GHG assessment provides estimates of scope 1, scope 2 and scope 3 emissions (see section 3.5) for the project. The study also provides a comparison of quantified GHG emissions with NSW and national emission inventories.

2 Legislative and policy context

2.1 Overview of chapter

This chapter of the report introduces the main greenhouse gases that are the focus of legislation and policy, and the concept of emission scopes. The chapter also summarises the legislative and policy context as it related to GHG emissions assessment, mitigation and reporting. The chapter includes the international context, then Australian context and the NSW context.

2.2 Greenhouse gases and emission scopes

2.2.1 Greenhouse gases

The gases addressed under the *National Greenhouse and Energy Reporting Act 2007* (NGER Act – see section 2.4.3) are summarised in Table 2.1.

Table 2.1 Greenhouse gases and characteristics

Greenhouse gas	Global warming potential (GWP)[a]	Atmospheric lifetime (years)[a]
Carbon dioxide (CO_2)	1	N/A[b]
Methane (CH_4)	28	12
Nitrous oxide (N_2O)	265	121
Sulfur hexafluoride (SF_6)	23,500	3,200
Hydrofluorocarbons (HFCs)	Dependent on HFC type	Dependent on HFC type
Perfluorocarbons (PFCs)	Dependent on PFC type	Dependent on PFC type

Notes: From Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5).

No single lifetime can be given for carbon dioxide because it moves throughout the earth system at differing rates.

Given that the various GHGs have different global warming potentials, it is convenient to express emissions using a common unit. For this purpose, the term 'carbon dioxide equivalent' (CO_2-e) has been defined. For any quantity and type of GHG, CO_2-e signifies the amount of CO_2 which would have the equivalent global warming impact. CO_2-e emissions are calculated based on the global warming potentials (GWPs) of specific gases adopted by the Parties to the UNFCCC and its Kyoto Protocol. In this assessment, GHG emissions are presented by gas, and for all gases combined, in terms of CO_2-e.

2.2.2 Emission scopes

For accounting and reporting purposes, GHG emissions are referred to as 'direct' or 'indirect', and defined according to three 'scopes' (1, 2 and 3). Examples of scope 1, 2 and 3 emissions are provided in Figure 2.1.

The three scopes are defined as follows:

- Scope 1 relates to direct emissions from sources within the boundary of an organisation (or project), and as a result of the organisation's activities. Scope 1 emissions are determined for the point of release (on-site). They include, for example, emissions from solid and liquid fuel combustion, and clearing of vegetation.

- Scope 2 relates to indirect emissions associated with the purchase of electricity, steam, heat or cooling at a site. Scope 2 emissions are physically generated outside an organisation's boundaries, such as an external power station in the case of electricity, but they are included in an organisation's emissions inventory because they are a result of the organisation's energy use.

- Scope 3 relates to all other indirect emissions (i.e. other than scope 2) which occur outside the boundary of an organisation but as a result of actions by the organisation, and are generated in the wider economy. Scope 3 emissions may occur upstream, such as during the extraction and production of fossil fuels, or downstream, such as from the transport of an organisation's product to customers, or the emissions from outsourced activities.

This GHG assessment is mainly concerned with scope 1 and scope 2 emissions, as defined under the NGER Act, but also considers scope 3 emissions, as defined within Australia's National Greenhouse Accounts for facility reporting (DCCEEW 2024).

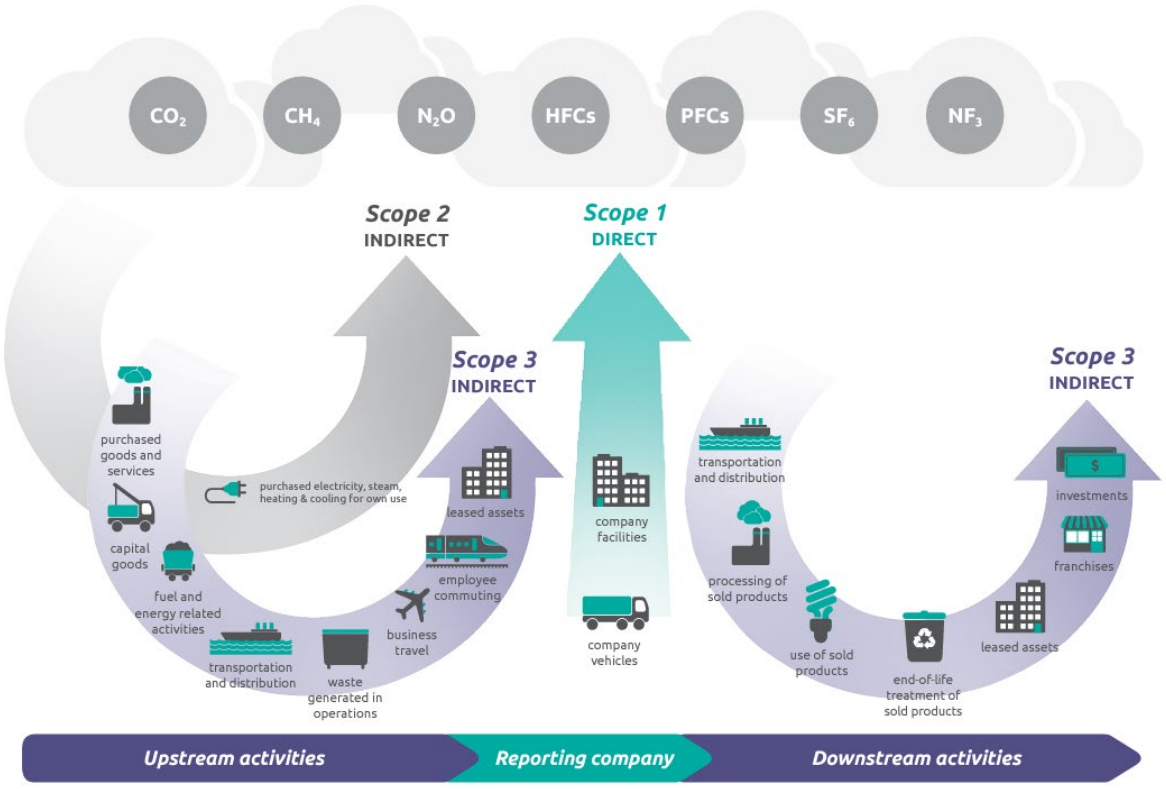

Figure 2.1 Overview of GHG emission scopes (WRI & WBCSD 2013)

2.3 International context

2.3.1 Intergovernmental Panel on Climate Change (IPCC)

The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science in relation to climate change. The IPCC prepares comprehensive Assessment Reports about the state scientific, technical and socio-economic knowledge on climate change, its impacts and future risks, and options for reducing the rate at which climate change is taking place. This first assessment report of the IPCC served as the basis for negotiating the United Nations Framework Convention on Climate Change (UNFCCC). The IPCC released its Sixth Assessment Report (AR6) in 2022/2023. The IPCC also produces a variety of guidance documents and recommendation methodologies for GHG emissions inventories.

2.3.2 United Nations Framework Convention on Climate Change (UNFCCC)

The UNFCCC entered into force in March 2004 and provides the basis for concerted international action to mitigate climate change and to adapt to its impacts. With 198 Parties, the Convention has nearly universal membership. The Conference of the Parties to the Convention (COP) are used to advance the implementation of the Convention.

The objective of the Convention is to stabilise GHG emissions 'at a level that would prevent dangerous anthropogenic interference with the climate system'. It states that 'such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner'[2].

The UNFCCC:

- puts the onus on developed countries to lead the way in reducing GHG emissions
- directs funds to climate change activities in developing countries
- receives regular reports from developed countries on climate change policies and measures
- recognises adaptation to climate change.

2.3.3 Paris Agreement

The Paris Agreement, which the Australian Government has signed, is a legally binding international treaty on climate change. It was adopted by the (then) 196 Parties to the UNFCCC at the 21st United Nations Climate Change Conference (COP21) in Paris, France in December 2015, and entered into force in November 2016. Its overarching goal is to hold the increase in the global average temperature to well below 2°C above pre-industrial levels, and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

Under the Paris Agreements, all Parties are required to put forward GHG emissions reduction targets through Nationally Determined Contributions (NDCs). All Parties are required to report on national emissions, with a review of targets set to occur every five years from 2020.

[2] https://unfccc.int/process-and-meetings/the-convention/what-is-the-united-nations-framework-convention-on-climate-change

2.4 Australian Context

2.4.1 Climate Change Act 2022

The *Climate Change Act 2022* provides the legislative framework for implementing Australia's net-zero commitments under the Paris Agreement, and sets out Australia's GHG emission-reduction targets. Australia has committed to reducing its GHG emissions by 43% below 2005 levels by 2030, and achieving net-zero emissions by 2050. *The Climate Change Act 2022* also introduced a requirement for an annual climate change statement to parliament, supported by independent advice from the Climate Change Authority (CCA). The *Climate Change Act 2022* does not impose any direct obligations on companies or facilities.

2.4.2 Global Methane Pledge

The Australian Government has also signed the Global Methane Pledge (GMP). The GMP was launched at the 26th United Nations Climate Change Conference (COP26) by the European Union and the United States. It is a voluntary commitment, with 122 signatories working collectively to reduce global CH_4 emissions across all sectors by at least 30% below 2020 levels by 2030.

2.4.3 The National Greenhouse and Energy Reporting Act and Scheme

The *National Greenhouse and Energy Reporting Act 2007 (Cwth)* (NGER Act), administered by the Commonwealth Government, establishes a national framework (the NGER Scheme) for corporations to report GHG emissions, energy consumption and energy production. Companies that exceed the NGER Scheme thresholds[3] of 25,000 tonnes CO_2-e per year for a facility, or 50,000 tonnes CO_2-e per year for a corporation, are required to register and report annually on their scope 1 and scope 2 emissions.

The NGER Act is underpinned by the *National Greenhouse and Energy Reporting Regulations 2008* and the *National Greenhouse and Energy Reporting (Measurement) Determination 2008*. The Measurement Determination provides methods, criteria and measurement standard for calculating GHG emissions and energy data and covers scope 1 and scope 2 emissions, energy production and consumption.

2.4.4 The Safeguard Mechanism

The NGER Act also provides a framework for Australia's highest emitting facilities to manage and report on their GHG emissions. This framework is the Safeguard Mechanism[4]. The Safeguard Mechanism was first legislated in 2014 and has been in place since 2016. It was reformed in 2023 to ensure that the facilities it covers will contribute to meeting Australia's GHG emission-reduction targets.

In general terms, the Safeguard Mechanism applies to facilities[5] with scope 1 emissions[6] of more than 100,000 tonnes of CO_2-e per year. It sets legislated limits — known as baselines — on the GHG emissions of these facilities. These baselines decrease on a trajectory that is consistent with achieving Australia's GHG emission-reduction targets of 43% below 2005 levels by 2030, and net zero by 2050. The baselines will decrease at 4.9% per year from 2023 to 2030. If a Safeguard facility exceeds its baseline, it must surrender Australian Carbon Credit Units or Safeguard Mechanism Credits (SMCs) equal to their excess emissions. Facilities that 'beat' their baselines may apply to receive SMCs.

[3] The thresholds are also stated in terms of energy production/consumption.

[4] https://www.dcceew.gov.au/climate-change/emissions-reporting/national-greenhouse-energy-reporting-scheme/safeguard-mechanism

[5] Grid-connected electricity generators are treated separately.

[6] The threshold applies to actual (gross) emissions from a facility, and does not take into account any offset or displaced emissions.

There are currently 221 Safeguard Facilities across the mining, manufacturing, transport, oil, gas and waste sectors. These facilities produce around 28% of Australia's GHG emissions.

It is acknowledged that the Safeguard Mechanism provides minimum requirements for the highest emitting facilities, but does not preclude the need for NSW EPA and the consent authority to properly understand the potential GHG impacts of proposed new or significantly modified developments, and to ensure that all proponents are adequately avoiding, minimising and managing their GHG emissions over all stages of the development.

2.5 NSW context

2.5.1 NSW Government

The overarching NSW Government legislation and policy documents that are broadly relevant to this study are summarised in Table 2.2.

Table 2.2 Overarching NSW Government legislation and policy

Title	Description	Reference
Climate Change (Net Zero Future) Act 2023	Legislates NSW target reductions in GHG emissions of 50% of 2005 levels by 30 June 2030, 70% of 2005 levels by 30 June 2035, and net zero emissions by 2050. The Act does not impose any direct obligations on companies or facilities.	-
NSW Climate Change Policy Framework	Sets out the NSW Government's long-term goals of achieving net-zero emissions by 2050, and making NSW more resilient and better adapted to a changing climate.	OEH (2016)
Net Zero Plan Stage1: 2020–2030	Foundation for NSW's action on climate change. It outlines the NSW Government's plan to grow the economy, create jobs and reduce emissions during the 2020s.	DPIE (2020)
Net Zero Plan Stage 1: 2020–2030 Implementation Update *Net Zero Plan Implementation Update 2022*	These provide updates on the key achievements of NSW Government under the Net Zero Plan, and commit NSW to reducing emissions by 50% below 2005 levels by 2030, and 70% below 2005 levels by 2035.	DPIE (2021a) OECC (2022)
NSW Climate Change Adaptation Strategy	Sets out the NSW Government's strategic approach for managing the impacts of climate change on the State.	NSW Government (2022)
NSW Waste and Sustainable Materials Strategy 2041	Sets out how NSW will transition to a circular economy over the next 20 years, including key reforms for reducing GHG emissions from materials (embedded carbon) and the waste sector.	DPIE (2021b)

The EPA is the primary environmental regulator for NSW. Although it has historically regulated some GHGs, the EPA has traditionally focussed on local and regional impacts on health and the environment. It has recently expanded its focus to more explicitly regulate the causes and consequences of climate change in NSW. The key EPA policy documents that are broadly relevant to this study are summarised in Table 2.3.

Table 2.3 Key NSW EPA legislation and policy

Title	Description	Reference
Protection of the Environment Administration Act 1991	Outlines the EPA's statutory objectives and duty to address climate change. Section 6 of the Act outlines the EPA's statutory objectives to protect the environment and human health. The key elements are: • to protect, restore and enhance the quality of the environment in NSW, having regard to the need to maintain ecologically sustainable development • to reduce the risks to human health and prevent the degradation of the environment, including by taking action in relation to climate change. Section 9 of the Act imposes a statutory duty on the EPA to develop environmental quality objectives, guidelines and policies to ensure environment protection. This includes protection of the environment from climate change.	-
Protection of the Environment Operations Act 1997	Sets out EPA's statutory powers and regulatory tools, including environment protection licensing. Schedule 1 of the Act sets out the types of activities that need a licence. The EPA is required to consider its statutory objectives (above) when exercising its licensing functions.	-
Climate Change Policy	Supports and builds upon NSW Government's climate change policies and initiatives. The main purpose is to address: • the EPA's statutory objectives to protect, restore and enhance the quality of the environment in NSW, and to reduce the risks to human health and prevent the degradation of the environment • the EPA's statutory duty to develop environmental quality objectives, guidelines and policies to ensure environment protection from climate change.	NSW EPA (2023a)
Climate Change Action Plan 2023–26	Designed to deliver the Climate Change Policy. The Action Plan sets out: • the specific actions the EPA will take over the three years that it covers • the regulatory action the EPA will consider over the medium to longer term, where an increased regulatory response may be required to support the NSW Government's climate change commitments and policies, including achieving net-zero emissions in NSW by 2050.	NSW EPA (2023b)
Strategic Plan 2024–29	Describes how the EPA will deliver stewardship for the environment to protect, restore and enhance the environment and human health. It sets out commitments to effective regulation and a focus on high quality environmental outcomes across all of EPA's work. The plan details objectives and outcomes for three key areas: • caring for country • driving action on climate change • enabling a safe circular economy.	NSW EPA (2024c)
Waste Delivery Plan	Outlines the actions the EPA take to reduce the harmful impact of waste and drive behaviours that create a circular economy. The Waste Delivery Plan includes actions to reduce carbon emissions and building the resilience of the waste sector to climate change.	NSW EPA (2021)

3 GHG emissions assessment

3.1 Assessment methodology

Steps 1 to 8 of the *NSW Guide for Large Emitters* are explained below:

- Step 1: Describe the assessment boundary and emission scenarios.
- Step 2: Identify and prioritise sources of greenhouse gases. This step involves the calculation of scope 1, 2 and 3 GHG emissions from each GHG emissions source, and prioritisation of emission sources for mitigation. The focus here was on scope 1 and scope 2 emissions. The EPA notes that estimating scope 3 emissions will support emissions reduction strategies such as process changes that will lead to the use of materials with lower embodied carbon emissions.
- Step 3: Select measures to avoid and reduce emissions. Identification and characterisation of mitigation measures, taking into account the EPA's mitigation hierarchy.
- Step 4: Estimate emissions with mitigation measures. Calculation of scope 1, 2 and 3 GHG emissions taking into account the proposed project as designed, including any planned and committed emissions avoidance and mitigation measures.
- Step 5: Emission benchmarking and emission goal setting. Definition of emission goals for the project, taking into account anticipated regulatory obligations for the project, mitigations likely to become available during the project life, and how project emissions compare to NSW emissions.
- Step 6: Offset strategy. Identifying any carbon offset strategies to be implemented for the project.
- Step 7: Independent expert reviews. Projects with scope 1 and 2 emissions exceeding 100,000 t CO_2-e per year at any time over the operational life of the project require mitigation assessments to be verified by an independent expert review.
- Step 8: Production of a GHG Assessment Report.

The methods used for these steps are described below.

3.2 Step 1: GHG assessment boundary and emission sources

Step 1 in the *NSW Guide for Large Emitters* involves defining the GHG assessment boundary for a project. This helps the proponent and the EPA to understand whether or not the climate change requirements for large emitters apply. In this report, the GHG assessment boundary for the project is treated, as conceptually shown in Figure 3.1. The figure shows the scope 1, 2 and 3 emission sources that are within the GHG assessment boundary for consideration within the assessment and those that are outside and subsequently have not been considered within the assessment. The sources that were included represented the most significant sources associated with the project. Where a particular emission source was excluded from the assessment, this was either because it was not relevant, or because emissions were likely to be zero or negligible.

The project features conventional open-cut mining techniques and ore processing activities, which are largely dependent of the use of both electricity and diesel-powered equipment.

For **scope 1** emissions, the sources included were:

- on-site liquid fuel (diesel) combustion.
- use of explosives.
- staged clearing of vegetation.

For **Scope 2** emissions, the relevant source was the purchase of grid electricity for on-site use. Scope 2 emissions arise from the generation of the electricity purchased and consumed by an organisation, but are physically produced by the burning of fuels (coal, natural gas, etc.) at power stations.

For **upstream scope 3** emissions, the sources included were:

- the extraction, production and transport of liquid fuels
- the purchase of grid electricity for on-site use. Here, scope 3 emissions are indirect emissions from the extraction, production and transport of the fuel burned during electricity generation, and the indirect emissions attributable to the electricity lost in delivery in the transmission and distribution network.

For **downstream scope 3** emissions, the following assumptions were used:

- the product concentrate would be transported from Lue to Parkes or Port Botany by road, then by rail to Port Pirie or to South Korea by ship.

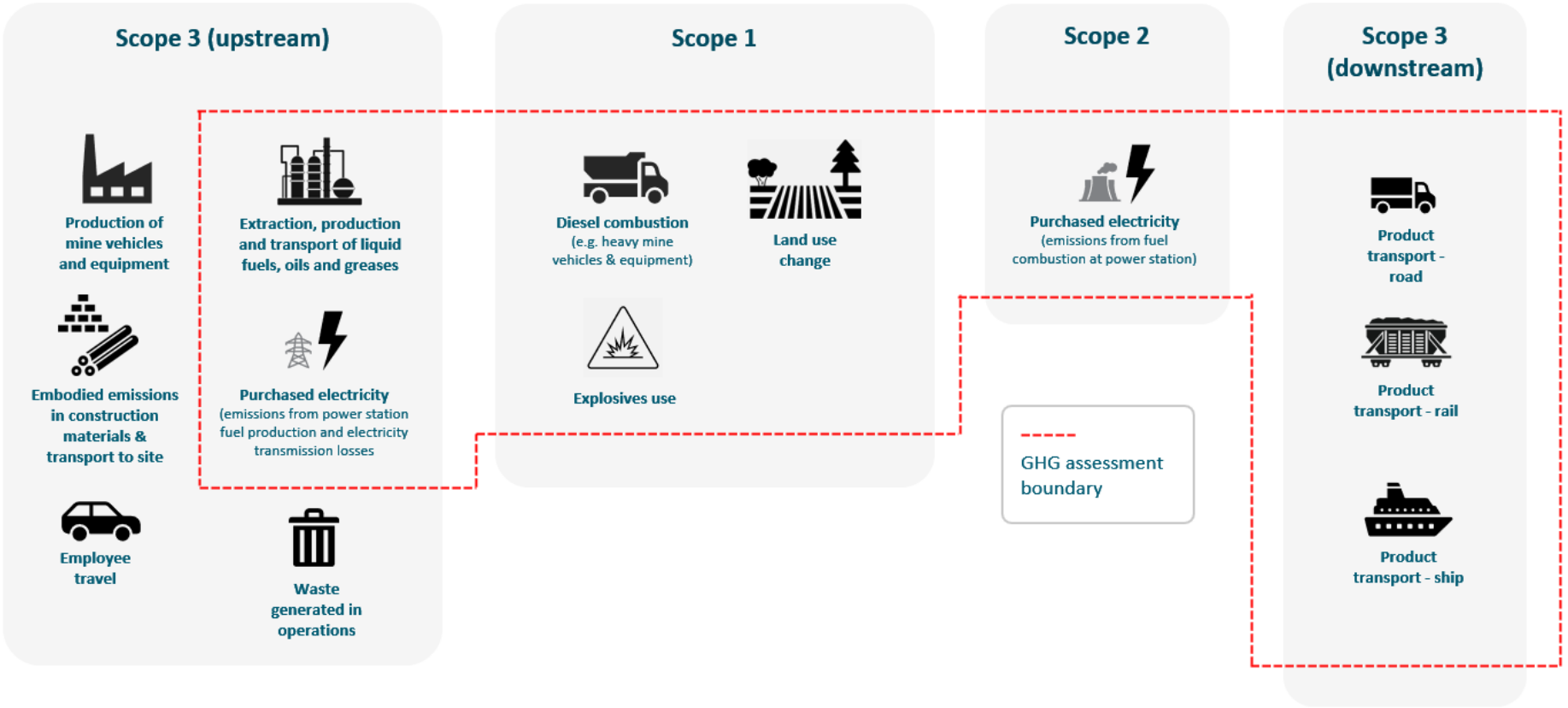

Figure 3.1 **GHG assessment boundary and emission sources**

3.2.1 Project stages

The *NSW Guide for Large Emitters* states that the GHG assessment must take into account all relevant stages of the project (as appropriate), such as construction, operation, decommissioning, closure and post-closure. The relevance of each project stage to the GHG assessment is summarised in Table 3.1.

Table 3.1 Relevance of project stages

Project stage	Relevance to GHG assessment
Construction (including demolition, land clearing and excavation)	Relevant
Operation	Relevant
Decommissioning	Relevant
Closure / Post-closure (including remediation and rehabilitation)	Relevant

3.2.2 IPCC sectors and sub-sectors for emission sources

The *NSW Guide for Large Emitters* requires emission sources to be categorised according to IPCC sectors and sub-sectors, as applied in Australia's national emission projections. For this assessment, all scope 1 emission sources are categorised as follows:

- IPCC sub-sector = mining

3.2.3 Emissions scenarios

Step 1 of the *NSW Guide for Large Emitters* also requires the definition of emission scenarios. Given the project is a greenfield mining operation, there will be a single future emissions scenario assessed in this report.

3.2.4 Maximum capacity and operational throughput

The *NSW Guide for Large Emitters* requires that scope 1 and 2 emissions are estimated for each financial year over the project life based on maximum capacity and planned operational throughput. However, for the purpose of this project no distinction can currently be made between the maximum capacity and planned operational throughput. The results therefore reflect a single condition.

3.3 Step 2: Identify and prioritise sources of greenhouse gases

3.3.1 Identification of the project as a large emitter

The EPA considers a project to have large emissions if it meets three criteria, as specified in Table 3.2. The application of these criteria to the project is also shown in Table 3.2. For the third criterion presented, the supporting calculations are given in Table 3.3.

Table 3.2 Criteria for identifying large emitters

Criterion	Applicability to project
Does the project require development assessments and approvals under the Environmental Planning and Assessment Act 1979?	Yes
Does the project involve one or more scheduled activities under Schedule 1 of the POEO Act and/or will be carried out at an existing licensed premises?	Yes
Is the project likely to emit (within the GHG assessment boundary) 25,000 tonnes or more of scope 1 and 2 emissions (CO_2-e) in any financial year during the operational life of the project?	Yes (see calculations in Table 3.3)

The scope 1 and 2 emission totals presented in Table 3.3 are based on the results for the assessment presented in Appendix C, and exclude any carbon offsets. It can be seen that the threshold for large emitters of 25,000 t CO_2-e is projected to be exceeded by the project in the first nine years of operations (highlighted in bold). The 100,000 t CO_2-e per year threshold for either the Safeguard Mechanism or the *NSW Guide for Large Emitters* independent review of this report is not reached for any year of the project.

Table 3.3 Annual scope 1 and scope 2 emissions for project operation

Financial year	Scope 1 and scope 2 emissions (t CO_2-e/year)
FY26	**72,843.7**
FY27	**82,371.2**
FY28	**44,609.2**
FY29	**49,212.9**
FY30	**41,934.8**
FY31	**30,349.9**
FY32	**32,610.5**
FY33	**29,170.5**
FY34	**32,698.5**
FY35	22,080.1
FY36	23,872.7
FY37	24,029.1
FY38	21,156.8
FY39	21,059.0
FY40	18,823.6
FY41	17,855.1
FY42	5,015.7
FY43	3,902.0
FY44	3,769.2
FY45	5,015.7
FY46	1,265.4

3.3.2 Calculation approach

Details of the GHG emission calculation methodology are provided in Appendix A. The supporting activity data (e.g. fuel consumption, electricity consumption) are given in Appendix B.

The estimation of GHG emissions for the project was generally based primarily on the *National Greenhouse Accounts Factors Workbook* (NGAF) (DCCEW 2024). The methodologies in the NGAF workbook follow a simplified approach, equivalent to the 'Method 1' approach outlined in the *National Greenhouse and Energy Reporting (Measurement) Technical Guidelines* (DoE 2014). The Technical Guidelines are used for the purpose of reporting under the Commonwealth *National Greenhouse and Energy Reporting Act 2007* (the NGER Act).

The results of the emission calculations are presented in Appendix C.

3.3.3 Prioritisation of emission sources

In Table 3.4, the sources of scope 1 and scope 2 emissions in Scenario 1 are ranked according to their contribution to total emissions between FY26 and FY46. The most significant contributing source to scope 1 and 2 emissions is diesel consumption by on-site mining and transportation equipment at approximately 55.7% of total emissions.

Table 3.4 Ranking of scope 1 and scope 2 sources based on project life emissions

Ranking	Source	Scope	Life of mine emissions (t CO_2-e)	Contribution (%)
1	Diesel consumption – on-site	Scope 1	325,299	55.74%
2	Electricity consumption	Scope 2	138,122	23.67%
3	Vegetation clearing	Scope 1	117,056	20.06%
4	Explosives use	Scope 1	3,168	0.54%

Table 3.5 shows the ranking of sources for scope 3 emissions. Similar to scope 1 and 2 emissions, diesel combustion on-site was the primary contributing source to life of mine emissions (65.6%).

Table 3.5 Ranking of scope 3 sources based on project life emissions

Ranking	Source	Scope	Life of mine emissions (t CO_2-e)	Contribution (%)
1	Diesel combustion – on-site	Scope 3	80,166.3	65.58%
2	Product transport - shipping	Scope 3	12,644.5	10.34%
3	Electricity	Scope 3	12,643.8	10.34%
4	Product transport - rail	Scope 3	10,699.5	8.75%
5	Product transport - road	Scope 3	6,090.9	4.98%

3.4 Step 3: Mitigation measures

As shown in Table 3.4, the primary contributor to annual scope 1 and 2 GHG emissions from the project are related to diesel combustion associated with the on-site mining and haulage fleet. Consequently,

Bowdens Silver has consulted with electric truck builder Sandvik in relation to the use of electric trucks on site. Modelling of haul routes and dump designs for the project in the context of appropriate units has been undertaken to determine the viability of electric trucks for the project. The consultation concluded that there are no commercially available battery electric open-pit trucks of appropriate size (100 t) for implementation at the project in FY26. The only available option is a 65 t underground battery electric truck.

Due to the smaller capacity and slower travel speed of the underground trucks, fleet size would increase from four to nine trucks. As a general rule, smaller capacity trucks would result in the generation of additional truck movements from the open cut to the run-of-mine (ROM) ore pad and a potential associated increase in particulate matter emissions from the project. Furthermore, a 65 t underground battery electric trucks costs more than a 100 t diesel open pit truck, resulting in an initial higher capital cost of approximately $20 million.

Bowdens Silver plan to incorporate one battery electric and one diesel ROM loading vehicles into its fleet. With full use, the diesel loader (model 990) would typically consume up to 204 kL/annum/unit. By sharing the ROM loading duty with a battery electric loader, it is estimated that a potential annual scope 1 GHG emission reduction of approximately 2-3% could be achieved.

Clearing of vegetation and the associated loss of carbon sink corresponds to a relatively significant source of scope 1 GHG emissions from the project. Progressive rehabilitation of disturbed mining areas will be completed over the life of the project. Furthermore, thousands of hectares of vegetation will be preserved in perpetuity on Biodiversity Offset Properties owned by Bowdens Silver. It is noted that no emission reductions associated with progressive rehabilitation and revegetation have been made in the emission calculations contained within this assessment.

For scope 2 emissions associated with the consumption of purchased electricity, it is noted that emission are highest in the earlier years of the project coinciding with a higher grid electricity emission factor. As the grid decarbonises, the significance of electricity consumption to total annual scope 1 and 2 GHG emissions reduces.

3.5 Step 4: Emission estimates

3.5.1 Scope 1 and scope 2 emissions

The estimates of scope 1 and scope 2 emissions in each scenario financial year of the project life are given in Appendix C. For simplicity of presentation, only the estimates for CO_2-e are presented, and the results for individual gases are not shown. The project life emission totals and average annual emissions are also presented. In addition, Appendix C provides the scope 1 and 2 emissions intensity per unit of production (tonnes of ROM ore extraction).

The contribution by emission source group by year to annual scope 1 GHG emissions is presented in Figure 3.2. The following points are noted:

- annual scope 1 and 2 emissions are above the large emitters threshold for the first nine years of the project
- diesel combustion contributes a significant proportion of total emissions each year
- annual emissions from vegetation clearing are largest in the first two years of the mine
- annual scope 2 emissions from electricity consumption decrease each year with the decarbonising electricity grid.

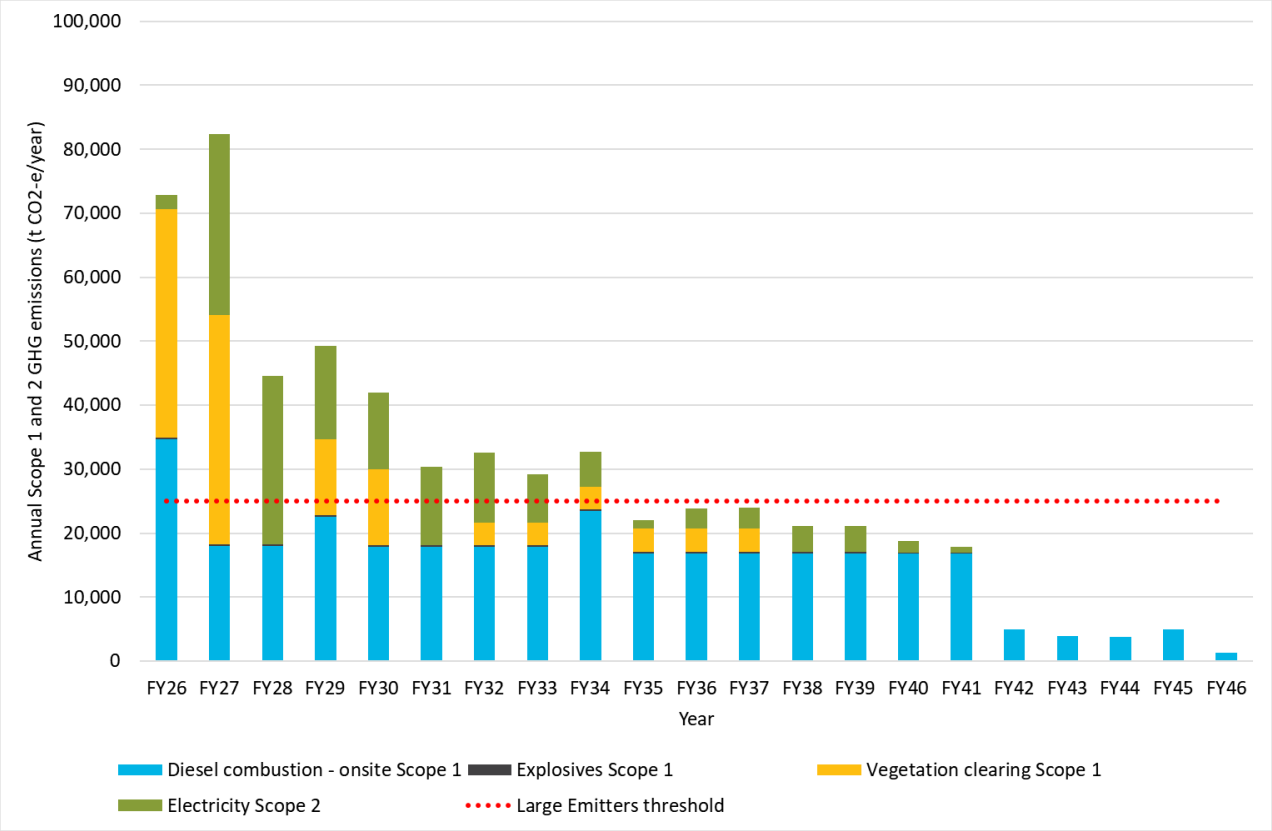

Figure 3.2 Contribution to annual scope 1 GHG emissions by year

The significance of emission source groups to life of mine average scope 1 and 2 GHG emissions is presented in Figure 3.3. It can be seen that emissions from diesel combustion contributes approximately 56% annual scope 1 and 2 GHG emissions from the mine.

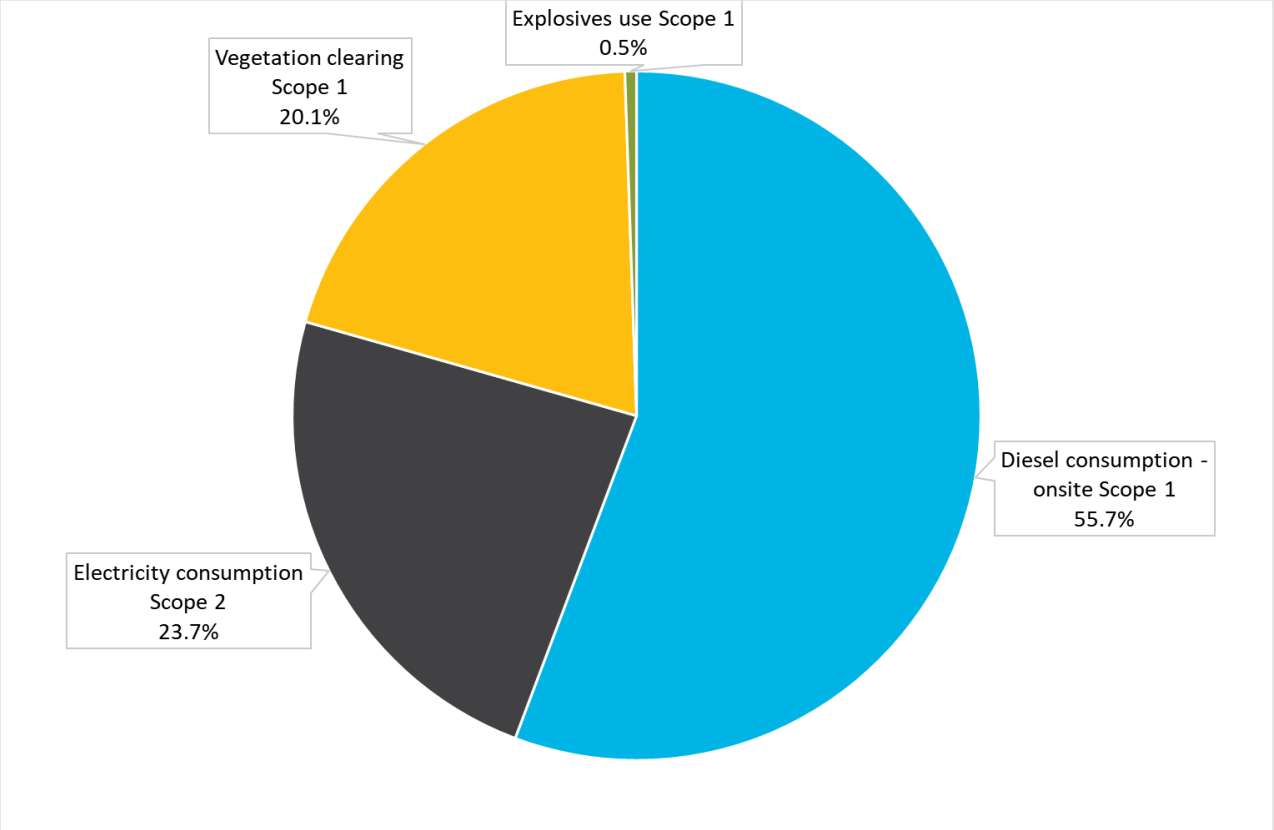

Figure 3.3 Source contribution to annual scope 1 GHG emissions (life of mine average)

3.5.2 Scope 3 emissions

The estimates of scope 3 emissions in each financial year of the project life are given in Appendix C.

3.6 Step 5: Emission benchmarking and goal setting

3.6.1 Reporting obligations

On the basis of the scope 1 emissions presented in Appendix C, the project will not trigger the Safeguard Mechanism threshold of 100,000 t of CO_2-e per year during any year of the project life. Consequently, the project will not be classified as a Safeguard facility under current legislation.

3.6.2 Comparison with NSW Net Zero Emissions Dashboard

The Net Zero Emissions Dashboard ('the Dashboard') presents past and projected future GHG emissions for NSW (NSW EPA 2024d). The Dashboard shows emission trends and the progress being made towards the state's emission-reduction objectives.

The Dashboard provides emissions for the following four cases (in bold):

- An historical **actual** emissions scenario up to 2020, based on the NSW Greenhouse Gas Inventory and the National Greenhouse Accounts compiled by the Australian Government.

- A future **business as usual (BAU)** projection. The BAU scenario accounts for major factors impacting NSW emissions including past state policies but excludes the impact of actions under the Net Zero Plan and related Government policies and programs.

- Two future **current policy** emissions projections up to 2050:

    - **As designed** scenario. This takes the BAU scenario and adjusts the emissions trajectory based on the designed abatement and timelines in existing NSW and Commonwealth policies and programs.

    - **As tracking** scenario. This adjusts the as designed scenario to reflect increased uncertainties in expected emissions reductions under certain programs and policies.

    The current policy emission estimates consider:

    - current policies and programs under Stage 1 of the Net Zero Plan

    - future initiatives related to reducing emissions supported by the NSW Climate Change Fund (CCF) under Stages 2 and 3 of the Plan

    - related policies including NSW Environment Protection Authority (EPA) Climate Change Policy and Action Plan and the Commonwealth's Safeguard Mechanism.

The future emissions from the Dashboard are shown in Table 3.6, the projected annual scope 1 emissions of the project are shown in Table 3.7. The *NSW Guide for Large Emitters* requires a comparison between the average annual percentage change in project emissions to FY30 and FY35, and the average annual percentage change in the overall NSW net zero emissions trajectory over these time frames. These average percentages changes are also shown in the two tables.

The annual change in emissions generated by the project and the equivalent NSW emission trajectory are illustrated in Figure 3.4.

Table 3.6 Emissions from NSW Net Zero Emissions Dashboard

Financial year	NSW					
	BAU	Current policy – as designed	Current policy – as tracking	BAU	Current policy – as designed	Current policy – as tracking
	(Mt CO_2-e/year)	(Mt CO_2-e/year)	(Mt CO_2-e/year)	% change from previous year	% change from previous year	% change from previous year
FY26	118.16	110.29	112.03	-6.3%	-8.8%	-8.5%
FY27	115.50	104.31	108.57	-2.3%	-5.4%	-3.1%
FY28	110.35	94.86	100.15	-4.5%	-9.1%	-7.8%
FY29	106.79	87.16	94.49	-3.2%	-8.1%	-5.7%
FY30	102.42	81.31	89.81	-4.1%	-6.7%	-5.0%
FY31	99.32	73.79	83.05	-3.0%	-9.2%	-7.5%
FY32	94.22	68.03	76.15	-5.1%	-7.8%	-8.3%
FY33	94.49	63.12	70.16	0.3%	-7.2%	-7.9%
FY34	86.86	52.62	60.93	-8.1%	-16.6%	-13.2%
FY35	85.07	49.14	56.91	-2.1%	-6.6%	-6.6%
FY36	84.72	47.34	55.08	-0.4%	-3.7%	-3.2%
FY37	83.47	44.84	52.56	-1.5%	-5.3%	-4.6%
FY38	80.13	39.82	47.59	-4.0%	-11.2%	-9.5%
FY39	79.48	37.30	45.38	-0.8%	-6.3%	-4.6%
FY40	74.33	28.80	36.45	-6.5%	-22.8%	-19.7%
FY41	71.04	26.42	34.06	-4.4%	-8.3%	-6.6%
FY42	69.39	25.84	33.36	-2.3%	-2.2%	-2.1%
FY43	68.35	26.01	33.17	-1.5%	0.7%	-0.6%
FY44	66.06	25.66	32.67	-3.4%	-1.3%	-1.5%
FY45	64.95	23.72	29.87	-1.7%	-7.6%	-8.6%
FY46	62.94	22.13	28.31	-3.1%	-6.7%	-5.2%
Average annual % change (FY26 to FY30)				**-4.1%**	**-6.3%**	**-7.8%**
Average annual % change (FY26 to FY35)				**-3.8%**	**-7.3%**	**-8.6%**

Table 3.7 Project emissions and percentage annual change

Year	Project	
	Annual emissions (Mt CO_2-e/year)	% change from previous year
FY26	0.071	-
FY27	0.054	-24%
FY28	0.018	-66%
FY29	0.035	90%
FY30	0.030	-13%
FY31	0.018	-40%
FY32	0.022	20%
FY33	0.022	<0.1%
FY34	0.027	26%
FY35	0.021	-24%
FY36	0.021	<0.1%
FY37	0.021	<0.1%
FY38	0.017	-17%
FY39	0.017	-0.3%
FY40	0.017	-0.1%
FY41	0.017	-0.5%
FY42	0.005	-70%
FY43	0.004	-22%
FY44	0.004	-3%
FY45	0.005	33%
FY46	0.001	-75%
Average annual % change (FY26 to FY30)		**-3.3%**
Average annual % change (FY26 to FY35)		**-3.5%**

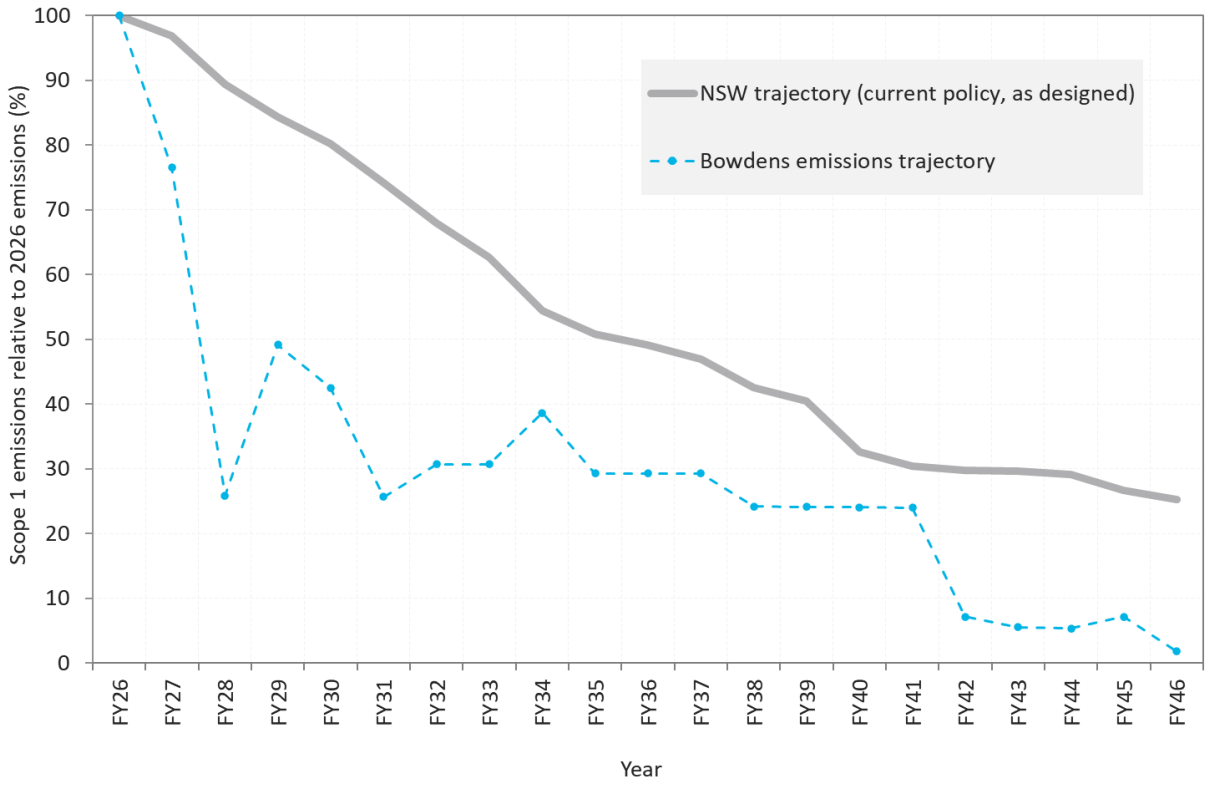

Figure 3.4 Scope 1 emissions relative to FY26 for NSW and project emissions

The emission reduction trajectories presented in Figure 3.4 show that the relative emission reduction for the project is below the projected NSW net zero emission trajectory over the life of the project.

Based on the data presented in Table 3.6 and Table 3.7, the following points are noted:

- To FY30, the project emissions show an average percentage change of -3.3%, relative to the corresponding NSW net zero emissions average percentage change of -6.3%.
- To FY35, an average percentage change of -3.5%, relative to the corresponding NSW net zero emissions average percentage change of -7.3%.

3.6.3 Goal setting

Under the *NSW Guide for Large Emitters*, proponents are required to set a long-term scope 1 emission goal, as well as interim goals, for the project's residual emissions. The scope 1 goals must be specified in absolute terms (e.g. tonnes CO_2-e for a given year), with emission intensity goals specified where appropriate.

As shown in Figure 3.4, the projected emission reduction trajectory for the project is lower than the NSW net zero emissions trajectory over the life of the project. However, relative to FY30 and FY35 annual average reduction rates (Table 3.7), the annual average percentage change in project emission is not as low as the equivalent emissions change for NSW.

To determine the potential reduction in emissions required over the periods from FY26 to FY30 and from FY26 to FY35, the difference in annual average percentage change relative to NSW reductions and the annual average emissions from the project have been quantified (Table 3.8). The results in Table 3.8 show that an annual average emission reduction of 841.9 t CO_2-e/year for the period to FY30 and 1,169.7 t CO_2-e/year for the period to FY35 would improve the emission reduction to the equivalent average annual percentage change for NSW.

Table 3.8 Scope 1 emission reduction requirements to meet NSW FY30 and FY35 reduction percentages

Period	Difference between project and NSW annual average percentage change	Annual average scope 1 project emissions (t CO_2-e/annum) from FY26	Average scope 1 emission reduction required (t CO_2-e/annum)
FY26 to FY30	-2.0%	41,549.8	-841.9
FY26 to FY35	-3.7%	31,720.8	-1,169.7

When compared to the annual average scope 1 GHG emissions generated over the life of the project, the average annual emissions reductions listed in Table 3.8 for FY26 to FY30 and FY26 to FY35 correspond to between 4% and 5.5% respectively. It is considered that the calculated reductions would likely be achieved through the mitigation measures listed in Section 3.4 relating to the use of battery electric ROM loaders and progressive rehabilitation of disturbed areas over the life of the project.

3.7 Step 6: Offset strategy

If required, Bowdens Silver would use an offsetting agent that is accredited and regulated as per Recommendation 12 of the Chubb Review of the Australian Carbon Credit Unit (ACCU) Scheme[7]. In accordance with Recommendation 9 of the Chubb Review, avoided deforestation projects will not be used. It is also expected that the carbon offsetting approach will give due regard to the integrity standards set out in the *Commonwealth Carbon Credits (Carbon Farming Initiative) Act 2011*. Moreover, it is noted that NSW prefers proponents to use carbon offsets that conserve, preserve, protect, enhance, and manage the NSW environment. Where appropriate offset projects cannot be identified in NSW, offset projects in other Australian locations may be used.

Some revegetation is proposed in addition to the Bowdens biodiversity offset strategy. In the order of 344 hectares (approximately 153 ha woodland and 191 ha native grassland) would be revegetated using native species consistent with the existing plant communities.

3.8 Step 7: Independent expert review

As highlighted in the preceding sections, the annual total scope 1 and 2 emissions from the Project are not estimated to exceed the threshold of 100,000 t CO_2-e/year in any single year of the Project. Therefore, the requirement for an independent expert review under Step 7 of the *NSW Guide for Large Emitters* is not applicable to this assessment.

[7] The Australian Carbon Credit Unit (ACCU) Scheme: A Review, Professor Ian Chubb, The Hon Dr Annabelle Bennett, Ariadne Gorring, Dr Steve Hatfield-Dodds, December 2022.

4 Conclusions

EMM has been engaged by Bowdens Silver to produce this GHG assessment for the project. The assessment has been conducted following the *NSW Guide for Large Emitters* guidance document, and estimates of scope 1, 2 and 3 GHG emissions for the project.

Emissions from the project were estimated for proposed construction, operations, decommissioning and rehabilitation phases. Under the *NSW Guide for Large Emitters*, the annual scope 1 and 2 emission totals are greater than the threshold of 25,000 t CO_2-e/year for a number of years over the life of mine. Therefore, the assessment approach prescribed within the *NSW Guide for Large Emitters* was deemed to be applicable.

The significance of emission source groups to total annual scope 1 and 2 GHG emissions was analysed. Emissions from diesel combustion contribute approximately 56% of annual scope 1 and 2 GHG emissions from the mine.

The *NSW Guide for Large Emitters* requires a comparison between the average annual percentage change in project emissions to 2030 and 2035, and the average annual percentage change in the overall NSW net zero emissions trajectory over these time frames.

When emissions from the project are compared against the NSW Net Zero Emissions Dashboard, the average percentage change to FY30 is calculated to be -3.3%, while the average percentage change to FY35 is calculated to be -3.5%. These calculated values are lower than the equivalent average percentage change for NSW in general (-6.3% and -7.3%, respectively) in the Dashboard. In order to achieve a trajectory equivalent to the NSW Dashboard, it is estimated that annual emission reductions of approximately 1,170 t CO_2-e/year would be required to FY35.

Bowdens Silver plan to incorporate one battery electric and one diesel ROM loading vehicles into its fleet to reduce annual diesel consumption and associated scope 1 emissions from the project.

The scope 1 GHG emissions from the project would not exceed the Safeguard Mechanism threshold of 100,000 t CO_2-e/year at any time over the life of the mine, and therefore no obligations under the Safeguard Mechanism would apply. The project would exceed the NGER scheme threshold of 25,000 t CO_2-e/year for scope 1 and 2 emissions over the first nine years of operations and therefore would be required to record and report energy consumption and GHG emissions on an annual basis.

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Appendix A
GHG emission calculation methods

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A.1 Scope 1 emissions

A.1.1 Liquid fuel consumption

For each greenhouse gas *i* (CO_2, CH_4 and N_2O), annual scope 1 emissions from the on-site consumption of liquid fuels were estimated using the following equation:

$$E_i = \frac{Q \times EC \times EF_i}{1{,}000}$$ Equation A.1

where:

E_i	=	GHG emission for gas *i*	(t CO_2-e/year)
Q	=	quantity of fuel	(kL/year)
EC	=	energy content of fuel	(GJ/kL)[8]
EF_i	=	emission factor for gas *i*	(kg CO_2-e/GJ)[9]

The energy content and GHG emission factors for diesel are presented in Table A.1. The quantities of fuel (kL) used in the assessment are given in Appendix B.

Table A.1 Energy content and scope 1 emission factors – liquid fuel consumption

Fuel	Energy content (GJ/kL)	Scope 1 emission factors (kg CO_2-e/GJ)			Reference
		CO_2	CH_4	N_2O	
Diesel – stationary (on-site)	38.6	69.9	0.1	0.2	DCCEEW (2024) (Table 8, diesel oil)
Diesel – transport (offsite)	38.6	69.9	0.07	0.4	DCCEEW (2024) (Table 9, Heavy duty vehicles Diesel oil - Euro iv or higher)

A.2 Explosives use

GHG emissions from use of explosives were estimated using the following equation:

$$E_{CO_2-e} = Q \times EF$$

Where:

E_{CO2-e}	=	Emissions of GHG from explosives (emulsion) use	(t CO_2-e)
Q	=	Quantity of explosives	(t)
EF	=	Emission factor (scope 1) for explosives (emulsion) use	(t CO_2-e/y)

The estimated explosives use is given in Appendix B.

[8] GJ = gigajoules

[9] kg CO_2-e/GJ = kilograms of carbon dioxide equivalents per gigajoule

The GHG emission factor was sourced from the NGAF (DCC 2008), as shown in Table A.2. There are no more recent emission factors available in the NGAF documents for explosives use.

Table A.2 GHG emission factors – explosives use

Emission source	Emission factor (t CO_2-e/t explosives)	Source
	Scope 1	
Explosives use	0.17	Table 4, NGAF 2008

A.3 Vegetation clearing (carbon sink loss)

GHG emissions from carbon loss associated with the clearing of vegetation were estimated using the method outlined in the TAGG Workbook (TAGG 2013). The calculations require classification of vegetation types which are then assigned to a specific emission factor. The main steps in the methodology included the following:

1. Determine the types and areas of vegetation to be cleared over the course of the project.
2. Link the vegetation type to a vegetation class as given in Table 2 of TAAG 2013.
3. Use the maps given in Attachment A of TAAG 2013 to determine the 'maximum potential biomass class' based on the Project's location.
4. Use the vegetation type and maximum potential biomass class to look up the CO_2-e emission factor for each vegetation class.
5. Multiply the area of vegetation cleared with the emission factor for each vegetation class and combine to estimate the total GHG emissions.

The identified vegetation type and areas are listed in Appendix B. The applicable emission factors are listed in Table A.3.

Table A.3 GHG emission factors – vegetation clearing

Vegetation class (TAAG 2013)	Vegetation type	Maximum potential biomass class (TAAG 2013)	Emission factors (t CO_2-e/ha)	Source
C	Open forest	3	307	Table 2, TAGG 2013
D	Open woodlands		307	

A.4 Scope 2 emissions

Annual scope 2 GHG emissions associated with on-site electricity consumption were estimated using the following equation:

$$E = \frac{Q \times EF}{1{,}000}$$ Equation A.2

where:

E	=	GHG emission	(t CO_2-e/year)
Q	=	quantity of electricity	(MWh/year)[10]
EF	=	emission factor for electricity consumption	(kg CO_2-e/MWh)

The estimated electricity consumption for the project is given in Appendix B.

The scope 2 emission factors for electricity consumption were taken from *Australia's emissions projections 2024* (DCCEEW 2024). These values are presented in Table A.4.

Table A.4 Scope 2 GHG emission factors for electricity consumption

Financial year	Emission factor (t CO_2-e/MWh)	Reference
FY26	0.47	DCCEEW (2024) (values for NSW/ACT in Table 45)
FY27	0.40	
FY28	0.34	
FY29	0.21	
FY30	0.15	
FY31	0.15	
FY32	0.13	
FY33	0.09	
FY34	0.09	
FY35	0.07	
FY36	0.06	
FY37	0.06	
FY38	0.06	
FY39	0.06	
FY40 - onwards	0.03	

[10] MWh = megawatt hours

A.5 Scope 3 emissions

A.5.1 Extraction, production and transport of liquid fuels

Upstream scope 3 emissions for diesel consumption were calculated using Equation A.1. The energy content and scope 3 GHG emission factors for each fuel are presented in Table A.5. The quantities of fuel (kL) used in the assessment are given in Appendix B.

Table A.5 Energy content and scope 3 emission factors – liquid fuel consumption

Fuel	Energy content (GJ/kL)	Scope 3 emission factor (kg CO_2-e/GJ)	Reference
Diesel	38.6	17.3	DCCEEW (2024) (Table 8, diesel oil)

A.5.2 Electricity consumption

Annual scope 3 GHG emissions associated with on-site electricity consumption were estimated using Equation A.2, in combination with the electricity consumption values in Appendix B and the scope 3 emission factors in Table A.6. The scope 3 emission factors for electricity consumption were taken from *Australia's emissions projections 2024* (DCCEEW 2024).

Table A.6 Scope 3 GHG emission factors for electricity consumption

Financial year	Emission factor (t CO_2-e/MWh)	Reference
FY26	0.03	DCCEEW (2024) (derived from values for NSW/ACT in Tables 45 and 46)
FY27	0.03	
FY28	0.02	
FY29	0.02	
FY30	0.01	
FY31	0.01	
FY32	0.01	
FY33	0.01	
FY34	0.01	
FY35	0.01	
FY36	0.01	
FY37	0.01	
FY38	0.01	
FY39	0.01	
FY40 - onwards	0.01	

A.5.3 Product transport – road, rail and shipping

Scope 3 emissions were calculated for the transport of product material by road to Parkes or Port Botany, by rail from Parkes to Port Pirie or by ship from Port Botany to South Korea.

The scope 1 diesel combustion factor for transport use (Table A.1) was applied to estimate scope 3 emissions by third-party transportation trucks.

The emission factor for freight train transport (0.02779 kg CO_2-e/tonne.km) was taken from the UK Department for Energy Security and Net Zero (UKDESNZ 2023).

For the transport of product by ship, the emission factor for shipping by bulk carrier (average of 0.00353 kg CO_2-e/tonne.km) was taken from UKDESNZ (2023).

Appendix B
Activity data

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B.1 On-site activity

Fuel based activity data for the emission estimates are presented in Table B.1. Vegetation clearing details are presented in Table B.2.

B.2 On-site diesel consumption

The annual on-site diesel consumption for construction, mining and rehabilitation was provided by Bowdens Silver for each year of the project and used directly for emission estimates. These annual totals are listed in columns 2 and 3 of Table B.1.

B.3 Explosives use

Explosive usage for each year is based on intensity factors provided by Bowdens Silver, as follows: 0.2087 tonnes explosive per tonne of waste rock and 0.2826 tonnes explosive per tonne ore. The derived annual explosives use total is listed in column 5 of Table B.1.

B.4 Vegetation clearing

Progressive clearing of vegetation will occur during the project life. The expected area of clearing by vegetation type is listed in condition B53 of previous consent SSD-5756. The timing of vegetation clearing is listed in Table B.2.

It is noted that rehabilitation of disturbed area within the project site will occur on a progressive basis. Thousands of hectares of vegetation will also be preserved in perpetuity on Biodiversity Offset Properties owned by Bowdens Silver. No emission reductions associated with rehabilitation is accounted for in this assessment.

B.5 Purchased electricity consumption

Power consumption is assumed to peak in Year 7 (year of maximum ore production) with a projected maximum power requirement of 84 000 MWhr (megawatt hours) per annum applied for this year. Electricity consumption for all other years is pro-rated from the maximum, based on the ore production for that year.

B.6 Diesel consumption – road transportation

Diesel consumption from product transportation by road is estimated based on an average articulated truck diesel consumption rate of 53.1 L/100-km[11] and respective travel distance for silver/lead concentrate (project site to Parkes) and zinc concentrate (project site to Newcastle or Botany).

Based on an average truck load of 44 t of concentrate, between 200 and 290 truckloads would be required to transport between 8,800 and 12,760 tonnes of silver/lead concentrate per annum and between 280 and 410 truckloads would be required to transport between 12,320 and 18,040 tonnes of zinc concentrate per annum. To estimate the annual variation in fuel consumption for product transportation by road, these maximum truck movements are scaled pro-rata based on the ratio of ore production for that year to the maximum ore production across all years.

[11] Taken from the ABS Survey of Motor Vehicle Use for Australia for the 12 months ended 30 June 2020

B.7 Diesel consumption – rail transportation

The maximum annual tonnes of product and travel distance from Parkes to Port Pirie (1,130 km) are combined to estimate the gross-tonne-km travelled for loaded trains. For the return trip, an estimate of the gross-tonne-km for empty trains is made based on a wagon weight of 23 t, an average of 88 wagons per train and average train capacity of 8,336 t. To estimate the annual variation in gross-tonne-km for product transportation by rail, the amount of silver/lead concentrate transported per year is derived from the estimated truck loads required to transport product to Parkes each year (Section B.6).

B.8 Diesel consumption – shipping transportation

The maximum annual tonnes of product and travel distance from Port Botany to South Korea (4,500 nautical miles or 8,334 km) are combined to estimate the gross-tonne-km travelled for shipping. To estimate the annual variation in gross-tonne-km for product transportation by shipping, the amount of zinc concentrate transported per year is derived from the estimated truck loads required to transport product to Port Botany each year (Section B.6).

Table B.1 Projected annual activity data

Year	Project phase	Diesel consumption (kL) - mining	Diesel consumption (kL) - rehabilitation	Explosives usage (t)	Electricity (MWh)	Diesel consumption (kL) – road transport	Tonne.km/year - product transport - rail	Tonne.km/year - product transport - shipping
FY26	Site establishment and construction	12,810	-	1,128	4,614	-	-	-
FY27	Operations	6,658	-	1,422	70,791	189	27,253,383	253,408,009
FY28	Operations	6,658	-	1,428	77,427	207	29,808,010	277,161,492
FY29	Operations	8,319	-	1,433	69,092	185	26,599,227	247,325,521
FY30	Operations	6,594	-	1,446	79,355	212	30,550,328	284,063,732
FY31	Operations	6,594	-	1,438	81,584	218	31,408,316	292,041,497
FY32	Operations	6,594	-	1,234	84,000	225	32,338,518	300,690,720
FY33	Operations	6,594	-	1,227	83,124	222	32,001,333	297,555,504
FY34	Operations	8,667	-	1,199	59,963	160	23,084,517	214,644,964
FY35	Operations	6,223	-	1,115	20,216	54	22,302,426	205,349,760
FY36	Operations	6,223	-	1,170	53,306	143	20,521,815	190,816,390
FY37	Operations	6,223	-	1,180	55,883	150	21,514,092	200,042,809
FY38	Operations	6,223	-	1,210	68,143	182	26,233,988	243,929,448
FY39	Operations	6,223	-	890	67,420	180	25,955,318	241,338,312
FY40	Operations	6,223	-	787	60,907	163	23,448,303	218,027,529
FY41	Operations	6,223	-	329	31,220	84	12,019,223	111,757,406
FY42	Decommissioning / rehabilitation	-	1,851	-	-	-	-	-
FY43	Decommissioning / rehabilitation	-	1,440	-	-	-	-	-

Year	Project phase	Diesel consumption (kL) - mining	Diesel consumption (kL) - rehabilitation	Explosives usage (t)	Electricity (MWh)	Diesel consumption (kL) – road transport	Tonne.km/year - product transport - rail	Tonne.km/year - product transport - shipping
FY44	Decommissioning / rehabilitation	-	1,391	-	-	-	-	-
FY45	Decommissioning / rehabilitation	-	1,851	-	-	-	-	-
FY46	Decommissioning / rehabilitation	-	467	-	-	-	-	-

Table B.2 Vegetation clearing (Consent SSD-5756, condition B53)

Vegetation type	Vegetation class	Vegetation clearing (ha) by mine stage and year		
		Stage 1 (years 0 – 1)	Stage 2 (3-4)	Stage 3 (6-12)
PCT277 Blakely's Red Gum – Yellow Box grassy tall woodland	D	5.64	4.39	13.05
PCT324 Inland Scribbly Gum grassy open forest	C	40.95	7.7	10.05
PCT323 Red Stringybark Inland Scribbly Gum Dry Open Forest (Moderate/good-high)	C	45.35	24.85	14.18
PCT323 Red Stringybark Inland Scribbly Gum Dry Open Forest (Moderate/good medium)	C	2.24	6.44	5.26
PCT323 Red Stringybark Inland Scribbly Gum Dry Open Forest (Moderate/good-poor)	C	12.1	6.91	2.25
PCT358 Mugga Ironbark – Red Box – White Box – Black Cypress Pine tall woodland	D	0.62	0.08	0
PCT281 Rough-Barked Apple – red gum – Yellow Box woodland (Moderate/good medium)	D	74.23	6.8	9.76
PCT281 Rough-Barked Apple – red gum – Yellow Box woodland (Moderate/good-poor)	D	29.87	20.47	16.06
PCT273 White Box shrubby open forest	C	22.04	0	0

Appendix C

Emissions data (CO_2-e)

EMM
creating opportunities

The emission estimates (CO_2-e) for scope 1, scope 2 and scope 3 emissions are given in the following tables:

Table C.1: GHG emissions in each year of the project life – scope 1

Table C.2: GHG emissions in each year of the project life – scope 2

Table C.3: GHG emissions in each year of the project life – scope 3

Table C.4: Average annual and total project life GHG emissions (FY26 to FY46)

Table C.5: GHG emissions intensity per unit of production (tonne of ROM ore extracted)

Table C.1 GHG emissions by year – scope 1

Emission category	GHG emissions by financial year (t CO_2-e/year)																			
	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40	FY41	FY42	FY43	FY44	FY45	FY46
Diesel combustion – on-site	34,712	18,041	18,041	22,542	17,868	17,868	17,868	17,868	23,485	16,863	16,863	16,863	16,863	16,863	16,863	16,863	5,016	3,902	3,769	5,016	1,265
Explosives	192	242	243	244	246	244	210	209	204	190	199	201	206	151	134	56	0	0	0	0	0
Vegetation clearing	35,772	35,772	0	11,918	11,918	0	3,613	3,613	3,613	3,613	3,613	3,613	0	0	0	0	0	0	0	0	0
Total	**70,675**	**54,055**	**18,284**	**34,704**	**30,032**	**18,112**	**21,691**	**21,689**	**27,302**	**20,665**	**20,674**	**20,676**	**17,068**	**17,014**	**16,996**	**16,918**	**5,016**	**3,902**	**3,769**	**5,016**	**1,265**

Table C.2 GHG emissions by year – scope 2

Emission category	GHG emissions by financial year (t CO_2-e/year)																			
	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40	FY41	FY42	FY43	FY44	FY45	FY46
Electricity consumption	2,169	28,317	26,325	14,509	11,903	12,238	10,920	7,481	5,397	1,415	3,198	3,353	4,089	4,045	1,827	937	0	0	0	0	0
Total	**2,169**	**28,317**	**26,325**	**14,509**	**11,903**	**12,238**	**10,920**	**7,481**	**5,397**	**1,415**	**3,198**	**3,353**	**4,089**	**4,045**	**1,827**	**937**	**0**	**0**	**0**	**0**	**0**

Table C.3 GHG emissions by year – scope 3

Emission category	GHG emissions by financial year (t CO_2-e/year)																			
	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40	FY41	FY42	FY43	FY44	FY45	FY46
Upstream emissions																					
Extraction, production & transport of liquid fuels: diesel	8,554	4,446	4,446	5,555	4,403	4,403	4,403	4,403	5,788	4,156	4,156	4,156	4,156	4,156	4,156	4,156	1,236	962	929	1,236	312
Electricity consumption	138	2,124	1,549	1,382	794	816	840	831	600	202	533	559	681	674	609	312	0	0	0	0	0
Downstream emissions																					
Product transport - road	0	431	472	421	483	497	512	506	365	351	325	340	415	411	371	190	0	0	0	0	0
Product transport - rail	0	757	828	739	849	873	899	889	641	620	570	598	729	721	652	334	0	0	0	0	0
Product transport - shipping	0	895	979	874	1,004	1,032	1,063	1,052	759	726	674	707	862	853	770	395	0	0	0	0	0
Total	**8,693**	**8,654**	**8,274**	**8,971**	**7,533**	**7,621**	**7,716**	**7,682**	**8,153**	**6,054**	**6,258**	**6,360**	**6,843**	**6,815**	**6,558**	**5,387**	**1,236**	**962**	**929**	**1,236**	**312**

Table C.4 Average annual and total project life GHG emissions (FY26 to FY46)

Emission category	Average annual emissions (t CO_2-e)			Total project life emissions (t CO_2-e)		
	Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3
Diesel consumption	15,490	-	-	325,299	-	-
Petrol consumption	151	-	-	3,168	-	-
Oil and grease consumption	5,574	-	-	117,056	-	-
Electricity consumption	-	6,577	-	-	138,122	-
Extraction, production and transport of liquid fuels: diesel	-	-	3,817	-	-	80,166
Electricity consumption	-	-	602	-	-	12,644
Product transport - road	-	-	289	-	-	6,076
Product transport - rail	-	-	509	-	-	10,699
Product transport - shipping	-	-	602	-	-	12,644
Overall average annual emissions	**21,215**	**6,577**	**5,820**	**-**	**-**	**-**
Overall total emissions	**-**	**-**	**-**	**445,523**	**138,122**	**122,230**

Table C.5 GHG emissions intensity by year

Emission scope	GHG emissions intensity by financial year (t CO_2-e / t ROM ore extracted)																				
	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40	FY41	FY42	FY43	FY44	FY45	FY46
Scope 1	0.6215	0.0310	0.0096	0.0204	0.0154	0.0090	0.0105	0.0106	0.0185	0.0415	0.0157	0.0150	0.0102	0.0102	0.0113	0.0220	n/a	n/a	n/a	n/a	n/a
Scope 2	0.0191	0.0162	0.0138	0.0085	0.0061	0.0061	0.0053	0.0037	0.0037	0.0028	0.0024	0.0024	0.0024	0.0024	0.0012	0.0012	n/a	n/a	n/a	n/a	n/a
Scope 1 + Scope 2	0.6405	0.0472	0.0234	0.0289	0.0214	0.0151	0.0158	0.0142	0.0221	0.0443	0.0182	0.0174	0.0126	0.0127	0.0125	0.0232	n/a	n/a	n/a	n/a	n/a

Australia

SYDNEY
Level 10 201 Pacific Highway
St Leonards NSW 2065
T 02 9493 9500

NEWCASTLE
Level 3 175 Scott Street
Newcastle NSW 2300
T 02 4907 4800

BRISBANE
Level 1 87 Wickham Terrace
Spring Hill QLD 4000
T 07 3648 1200

CANBERRA
Suite 2.04 Level 2
15 London Circuit
Canberra City ACT 2601

ADELAIDE
Level 4 74 Pirie Street
Adelaide SA 5000
T 08 8232 2253

MELBOURNE
Suite 9.01 Level 9
454 Collins Street
Melbourne VIC 3000
T 03 9993 1900

PERTH
Suite 3.03
111 St Georges Terrace
Perth WA 6000
T 08 6430 4800

Canada

TORONTO
2345 Yonge Street Suite 300
Toronto ON M4P 2E5
T 647 467 1605

VANCOUVER
2015 Main Street
Vancouver BC V5T 3C2
T 604 999 8297

CALGARY
700 2nd Street SW Floor 19
Calgary AB T2P 2W2

linkedin.com/company/emm-consulting-pty-limited

emmconsulting.com.au

APPENDIX B

BIODIVERSITY CONSTRAINTS ASSESSMENT

BOWDENS SILVER PROJECT – PROPOSED POWERLINE

AREA Environmental & Heritage Consultants ABN: 29 616 529 867

- ✓ Environmental impact assessments and approvals: REFs, MW REFs, PEAs
- ✓ Ecology, Aboriginal and historic heritage assessments
- ✓ Biodiversity assessment method (BAM) assessments (BDAR) and offsetting (BSAR)
- ✓ Plans of Management
- ✓ Aboriginal community engagement
- ✓ Stakeholder and community engagement
- ✓ Peer review / project briefs / budgeting assistance / expert witness
- ✓ Commercial external landscape designs for built or natural environments
- ✓ Vegetation Management Plans
- ✓ Stakeholder and community engagement

66kV Electricity Transmission Line, Lue NSW

Desktop Biodiversity Constraints Assessment

Bowdens Silver

Mid – Western Regional Local Government Area

March 2025

Biodiversity | Heritage | Landscape Design | Compliance
a: *"The Old Macquarie Brewery" c1876, 72 Brisbane Street, Dubbo, NSW, 2830*
w: *www.areaenvironmental.com.au*
Instagram: areaenvironmental

Document controls

Client	Bowdens Silver
Proponent	Bowdens Silver
Document description	Ecological Impact Assessment
Client representative	Tom Purcell
AREA representative	Addy Watson
Cover image	-

Document Status		
DRAFT: Series V1.X AREA internal edits	**Date**	**Action**
V1.0	21/11/2024 26/11/2024	Draft for internal review - Internal review AW
V1.1	27/11/2024	Internal edits addressed
DRAFT Series V2.X Client / AREA internal edits	**Date**	**Action**
V2.0	28/11/2024	AREA to client
V2.0	06/12/2024	Client edits returned to AREA
V2.1	10/12/2024	AREA Address client comments
FINAL (approved by client)	**Date**	**Action**
V3.0	10/12/2024	Final to client
V3.1	23/01/2025	AREA address client edits
V3.2	10/03/2025	AREA address client edits
V3.3	25/03/2025	With final edits.

Prepared for BOWDENS SILVER	Tom Purcell Senior Health, Safety & Environmental Officer Bowdens Silver **Phone: (02) 6373 6420** **Email: tompurcell@bowdenssilver.com.au**
Prepared by AREA	**AREA Environmental & Heritage Consultants Pty Ltd** 72 Brisbane Street Dubbo NSW 2830 ABN:29 616 529 867

1 Introduction

Bowdens Silver (client) engaged AREA Environmental & Heritage Consultants Pty Ltd (AREA) to conduct a desktop biodiversity constraints assessment for the construction of a 66-kilovolt (kV) powerline. This desktop assessment identifies potential areas of impact that may occur within the study area. The study area encompasses a larger area than would be required for the construction of the powerline and the final alignment would consider the result of this assessment during detailed design. It is understood that the powerline could be located above and below ground, in a road reserve and in farmland.

The study area occurs approximately 10 kilometres north of Rylstone New South Wales (NSW), in the Mid-Western Regional Local Government Area. The study area comprises parcels of land approximately 14 kilometres in length and one kilometre wide.

This desktop assessment of biodiversity constraints provides information about previously recorded or reasonably predicted biodiversity values within the supplied study area. The purpose of this assessment is to identify biodiversity issues that may need to be addressed prior to the proposed works.

2 Constraints summary

Substantial portions of the study area have been previously cleared for agricultural purposes and is identified as Category 1 Land on the NSW Native Vegetation Regulatory (NVR) map.

The study area also contains land with remnant native vegetation including forests. These areas are mapped on the NVR map as Category 2 – regulated land, Category 2 – vulnerable regulated land and a very small corner of land mapped as Category 2 – sensitive regulated land.

Areas of Category 2 land mapped on the NVR map are also mapped as high biodiversity value according to the NSW Biodiversity Values Map and Key Fish Habitat according to the Fisheries NSW Spatial Data Portal.

Nine threatened species have been previously recorded within the study area. One flora species, a population of *Swainsona recta* Small Purple-pea has multiple recordings within the study area.

Fauna species recorded in the study area are explained further in Table 3-1.

The following sections describe relevant constraints, where they have been identified.

2.1 Landscape overview

Assessing the landscape context involves identifying a range of landscape features that may occur within the study area and surrounding region. These features may include biodiversity values that are important for:

- establishing the context of the study area in relation to the region, and
- identifying the likely habitat suitability of the study area for threatened entities.

2.1.1 Land use

Land use identified as occurring within the study area include the following:

- 1.3.0 Other minimal use,
- 5.4.0 Residential and farm infrastructure,
- 2.1.0 Grazing native vegetation,
- 3.2.0 Grazing modified pastures,
- 3.4.0 Perennial horticulture,
- 5.7.0 Transport and communication,
- 6.2.0 Reservoir/dam, and
- 6.3.0 River.

Land use consistent with areas of increased likelihood of biodiversity within the study area include:

- 1.3.0 Other minimal use
- 2.1.0 Grazing native vegetation,
- 6.2.0 Reservoir/dam, and
- 6.3.0 River.

Land use also influences the prevalence of weed species. For reference, a list of Priority Weeds for this broader region has been provided as Appendix A.

2.1.2 Conservation reserves

The study area does not intersect any conservation reserves.

2.1.3 Biodiversity Values Map

A review of the NSW Governments Biodiversity Values Map identified that the study area traverses five areas mapped as having biodiversity values. All area's mapped as having biodiversity values are associated with riparian vegetation and habitat along five waterways. Impact to these areas will be mitigated by avoiding them where feasible, and/or incorporating an appropriate construction methodology.

2.1.4 Hydrological features

The study area contains hydrological features including areas identified as Key Fish Habitat and ephemeral watercourses. Impact to these hydrological features and riparian corridors should be mitigated by avoiding them where feasible and/or by incorporating an appropriate construction methodology. Figure 2-1 and Table 2-1 (Department of Primary Industries Office of water, 2012) provide guidance on how to calculate the width of riparian corridors, depending on water course type and its Strahler order.

Figure 2-1: The Strahler System *(Department of Primary Industries Office of water, 2012)*

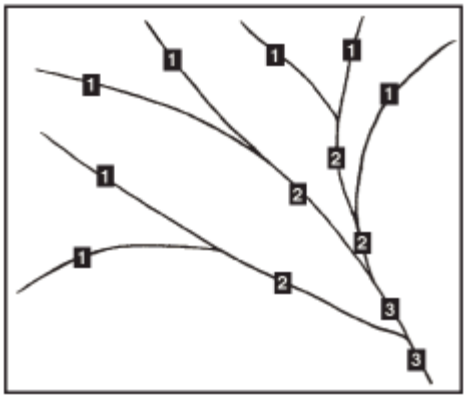

Table 2-1: Recommended riparian corridor (RC) width *(Department of Primary Industries Office of water, 2012)*

Watercourse type	VRZ width (each side of watercourse)	Total RC width
1st order	10 metres	20 m + channel width
2nd order	20 metres	40 m + channel width
3rd order	30 metres	60 m + channel width
4th order and greater (includes estuaries, wetlands and any parts of rivers influenced by tidal waters)	40 metres	80 m + channel width

2.2 Threatened ecological communities

The study area includes Plant Community Types (PCTs) associated with a threatened ecological community protected under the NSW *Biodiversity Conservation Act 2016* (BC Act) and if it meets a quality criterion, also the Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act).

Twenty-six PCTs have been mapped within the study area. Twelve of which are associated with Threatened Ecological Communities (TECs).

Areas mapped as, and consistent with the definition of, Category 1 exempt land are considered highly disturbed and do not need to be assessed for implementation of agricultural activities, or for direct impacts from projects assessed under the Biodiversity Offset Scheme. Category 1 exempt land is *"land where native vegetation can be cleared without approval from local land service"* (NSW DCCEEW, 2024). Category 1 exempt land is defined in *Section 60H of the Local Land Services Act 2013* (New South Wales Consolidated Acts, 2013).

Areas where one or more components of the vegetation has been removed (e.g., trees, shrubs or groundcover) can still be consistent with both the BC and EPBC Act criterion. The NSW TEC Final Determinations often confirm that degraded land can be consistent with the definition of a TEC. The final location and design of the powerline should avoid disturbance of associated PCTs as far as practicable.

Table 2-2: TECs and associated PCTs within the study area

Threatened Ecological Community	Listing	Associated PCT
Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions	Listed as Endangered under BC Act	201
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	Listed as Critically Endangered under the BC Act	266, 277, 281, 654, 1103, 1330, 3376, 3388, 3396
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Listed as Critically Endangered under the EPBC Act	266, 277, 281, 654, 1103, 1330, 3376, 3388, 3396
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	Listed as Endangered under BC Act	1103
Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Listed as Endangered under BC Act	1737
Central Hunter Valley eucalypt forest and woodland	Listed as Critically Endangered under the EPBC Act	3497

2.3 Threatened species

BioNet sighting records note the location of threatened flora and fauna within the study area. The location of the powerline should avoid patches of remnant woodland or forest so that the potential risk of harm to these threatened species is reduced. Mitigation measures outlined in Section 4 are recommended to reduce the impact on biodiversity.

A small population of *Swainsona recta* Small Purple-pea listed as Endangered under the BC Act and EPBC Act, has been recorded within the eastern boundary of the study area. The proponent should be aware that the mapped records do not necessarily reflect the actual distribution/extent of occupation of this species within the study area. It is recommended effort is made to avoid impact to the known population of this species, and other populations which may occur within the study area.

3 Identified constraints

Table 3-1 contains a summary of the environmental constraints identified for the study area. A series of digital shapefiles that provide the recorded or predicted extent of each identified constraint have been provided to the client with this report.

Table 3-1: Environmental constraints identified for the study area

Ecological classification	Desktop results	Constraints?	Interpretation	Supplied data
Environmentally Sensitive Areas (NSW DCCEEW, 2024).	There are no National Parks or Conservation Reserves within the study area.	None	No further consideration required	N/A
Important habitat maps[1]	No important habitat areas have been mapped within the study area.	None	No further consideration required	N/A
Biodiversity Values Map (DPE, 2024)	The study area transects five areas mapped as having biodiversity values by the NSW Government.	The biodiversity values map shows five areas of important biodiversity value present within the study area. Within the study area, areas mapped for biodiversity values often overlap areas identified as key fish habitat, named watercourses and areas mapped as Category 2 – regulated land.	All areas mapped as having biodiversity values are associated with hydrological features which should be avoided. The location and design of the powerline will ensure that it is unlikely to impact mapped biodiversity values.	https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap
Wilderness (*Wilderness Act 1987)*	There are no wilderness areas within the study area.	None	No further consideration required	N/A

[1] As per BAM 2020 'Important habitat map' is a map developed by the Department that identifies areas of habitat that are considered to be important for the survival of a threatened species in the wild. Species that have areas of important habitat mapped are identified in the Threatened Biodiversity Data Collection.

Ecological classification	Desktop results	Constraints?	Interpretation	Supplied data
Regional Forest Agreements (EPA, 2023)	There is no Regional Forest agreement within the study area.	None	No further consideration required	N/A
Vegetation communities (DPE, 2022)	Twenty-six Plant Community Types (PCTs) occur within the study area, 12 of which are associated with Threatened Ecological Communities (TECs).	PCTs listed as associated with TECs within the study area include. • 0 Not Classified • 201 • 266 • 277 • 281 • 654 • 1103 • 1330 • 1737 • 3376 • 3388 • 3396 • 3497	The listed 12 PCTs associated with six TECs mapped as occurring within the study area are listed in **Table 2-2**.	Predicted PCTs within the study area.
EPBC Act Protected Matters Search Tool (DCCEEW, 2023)	The protected matters search tool identified 50 threatened species and 8 migratory species which may occur within the study area.	The PMST identified: • 20 threatened birds • Four threatened fish • One threatened frog • Nine threatened mammals • One threatened reptile • 15 threatened plants • Four TECs Listed under the Commonwealth EPBC Act, which have potential to occur within the study area.	Several flora species are likely to occur in the area that are not recorded in the BioNet atlas.	Bowdens Silver PMST 15.11.2024

Ecological classification	Desktop results	Constraints?	Interpretation	Supplied data
BioNet records (DPE, 2023)	Nine threatened species have been recorded within the study area.	Amongst non-hollow using birds, there are records of Diamond Firetail *(Stagonopleura guttata)* and Grey-crowned Babbler (eastern subspecies) (*Pomatostomus temporalis temporalis*) within the study area. Records within the study area were commonly recorded along sealed roads. Koala (*Phascolarctos cinereus*) and Spotted-tailed Quoll *(Dasyurus maculatus)* have been recorded within the study area. Koala feed trees in the area should be avoided where possible. One BioNet record of the (*Eucalyptus cannonii)* Capertee Stringybark was previously recorded within the eastern boundary of the study area. Three records of *Swainsona recta* Small Purple-pea were also recorded within study area.	The threatened species recorded on the BioNet database are a mixture of birds, mammals and flora species. BioNet species recorded within the study area include. - Two mammal species, - five bird species, and - two flora species. The threatened species' records identified occur evenly across the study area adjacent to sealed roads, likely due to a greater human population traversing this area and remnant vegetation within the road corridor. Koala feed tree species and hollow bearing trees should be avoided to the greatest extent possible during design and construction.	BioNet records within study area.
Watercourses (Spatial Services, 2023)	*Five named and 136 unnamed watercourses transect the study area (*	The study area intersects five named waterways.	All mapped hydrological features should be avoided where possible by positioning electrical poles 40m from either side of named waterways.	Waterways within study area.

Ecological classification	Desktop results	Constraints?	Interpretation	Supplied data
Key Fish Habitat (DPI, 2023)	*13 hydrological features associated with key fish habitat are intersected by the study area (* .	Several waterways withing the study area are marked as key fish habitat.	Impact to mapped hydrological features within the study area should be avoided or mitigated by choosing an appropriate construction methodology in these areas.	KFH within the study area.shp
Wetlands (DPE, 2011)	No wetlands areas are mapped within the study area.	None	No further consideration required.	N/A
Draft Native Vegetation Regulatory (NVR) Map (NSW DCCEEW, 2024)	• Category 1 - exempt land (Not a constraint). • Category 2 –regulated land • Category 2 – Vulnerable regulated land • Category 2 – sensitive regulated land • Excluded land • Sensitive & vulnerable lands overlap	Category 2 – regulated land includes: • Land subject to an expired remedial action to restore or protect the biodiversity values. • Land containing medium conservation value grasslands. Category 2 – vulnerable regulated land includes: • Steep (greater than 18 degrees from the horizontal) or highly erodible land. • Protected riparian areas. • Land that is otherwise environmentally sensitive. Category 2 – sensitive regulated land includes:	Predominantly the study area is located within Category 1 – exempt land and Category 2 – regulated land. Category 2 – regulated land occurs within areas previously cleared with a decreased biodiversity value. Category 2 – Vulnerable and sensitive regulated land predominantly occurs where watercourses are present or where native vegetation has a high biodiversity value. Where possible impact to patches of native vegetation listed as Category 2 – Vulnerable and sensitive regulated land on the Native Vegetation Regulatory Map	Draft native vegetation regulatory map (nsw.gov.au)

Ecological classification	Desktop results	Constraints?	Interpretation	Supplied data
		Where the Environment Agency Head considers it to contain: • Old growth forest, rainforest, critically endangered ecological communities or critically endangered plants or core koala habitat. • High conservation value grasslands. • Land recommended for declaration as areas of outstanding biodiversity value. All stated criteria for Category 2- regulated land, Category 2- vulnerable regulated land and Category 2- sensitive regulated land are listed at the following link. https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/native-vegetation-regulatory-map/transitional-native-vegetation-regulatory-map	should be minimised or avoided.	
Biosecurity (NSW DPI, 2024)	**Appendix A** to this memo contains the priority weeds	149 priority weeds are identified for the local government areas surrounding the study area	Invasive exotic flora represents a threat to native vegetation. An increase in the movement of people, vehicles,	**Appendix A**: Priority weeds for the Central Tablelands.

Ecological classification	Desktop results	Constraints?	Interpretation	Supplied data
	for the Central Tablelands		machinery, vegetation waste, and soil during and following construction of the powerline has potential to spread weeds into environmentally sensitive areas.	

4 Mitigation measures and recommendations

Table 4-1 presents standard mitigation measures that are recommended to reduce the impacts of the powerline on biodiversity in the study area and reduce other environmental impact such as erosion or loss of habitat features.

Table 4-1:Mitigation measures

Impact	Mitigation measure	Responsibility	Timing
Clearing	• Implement exclusion zones to protect threatened ecological communities and threatened species habitat. Clearing of vegetation must not go beyond the approved clearing limits for the project. • Environmental surveys are to be conducted prior to clearing to correctly identify environmental constraints present within the study area. • A pre-clearing process should be completed before any agreed/ approved clearing begins. • Develop and implement a clearing and grubbing procedure.	Proponent / Contractor	Pre-construction, construction, operation
Removal of Native Vegetation	• Environmental surveys are to be conducted prior to clearing to correctly identify environmental constraints present within the study area. This will reduce and mitigate impact to native vegetation where possible. • Develop and implement an unexpected threatened species finds procedure, in the event a threatened species or threatened ecological community is encountered that has not previously been identified and assessed in the environmental assessment. • Keep stockpiles of cleared vegetation under two metres high. Non-woody vegetation (typically grasses and groundcover species) should be incorporated into the stripping of topsoil to retain any organic materials	Proponent/ Contractor	Construction and post-construction

Impact	Mitigation measure	Responsibility	Timing
	and nutrients within the topsoil layer. The staged vegetation removal process is to be used when identified native vegetation is to be removed. • Consider the seasonal impact of clearing on species identified in the environmental assessment or pre-clearing process or that are known to occur in the area. For example, hollow bearing trees and nests are more likely to be occupied in spring.		
Removal of Hollow - Bearing Trees.	• Minimise the removal of hollow bearing trees through environmental surveys, conducted prior to clearing to correctly identify hollow bearing trees present within the study area. Avoid and minimise impact to hollow bearing trees where possible. • Develop and implement a clearing and grubbing procedure. • Clearing of hollow bearing trees does not go beyond the approved clearing limits for the project. • Develop and implement an unexpected threatened species finds procedure complete with WIRES contact information, in the event a threatened species is encountered that has not previously been identified and assessed for in the environmental assessment. • Consider the seasonal impact of clearing on hollow dependent species identified in the environmental assessment or pre-clearing process or that are known to occur in the area. • If hollow bearing trees are being removed, consider providing nest boxes, artificial hollows or measures to create hollows within existing trees to mitigate impacts, as determined by the pre-clearing survey.	Proponent/ Contractor	Construction and post-construction
Removal of threatened Fauna habitat	• Minimise the removal of fauna habitat through Environmental surveys, conducted prior to clearing to correctly identify threatened fauna habitat present within the study area. This will reduce and mitigate impact to habitat for threatened fauna where possible. • The removal of bush rock does not go beyond the approved clearing limits for the project. • Where reasonable and feasible, retain mature and hollow bearing habitat trees, including dead stags. • Develop and implement an unexpected threatened species finds procedure complete with WIRES contact information, in the event a threatened species is encountered that has not previously been identified and assessed for in the environmental assessment.	Proponent/ Contractor	Pre-construction, construction, operation

Impact	Mitigation measure	Responsibility	Timing
	• Remove habitat nest trees in the presence of an appropriately experienced and qualified fauna spotter catcher/ ecologist or wildlife expert experienced in the rescue of fauna.		
Injury and mortality of fauna	• Clearing teams should have the contact details for WIRES (13 000 WIRES or 1300 094 737) or other wildlife carer in the event wildlife requires rescuing or is inadvertently injured. • Works should minimised risk of harm to threatened fauna. • Works are not to create a barrier to fauna movement. An appropriately qualified and experienced spotter catcher should be on site during habitat removal.	Proponent/ Contractor	Pre-construction, construction, operation
Introduction and spread of weeds and pathogens	• Revegetate disturbed sites with locally indigenous species. • Construction machinery should be washed prior to entering and leaving site to ensure weed propagules are not transported. • Mow/slash areas infested with weeds before they seed. This may reduce the growth of new plants. • Program works from least to most weed-infested areas. • Clean machinery, vehicles and footwear before moving to a new location. • Securely cover loads of weed-contaminated material to prevent weed plant material falling or blowing off vehicles. • Manage weed material and weed-contaminated soil on site where possible (e.g. through burial) and only dispose of weeds offsite in accordance with NSW EPA Resource Recovery Order and Exemptions. Where this is not possible, dispose of at a suitably licenced facility.	Proponent/ Contractor	Construction
Stockpiling	• Only place stockpiles in low value vegetation, where cleared sites are unavailable. • Stockpiles should be no taller than 2m height. • Use existing stockpiles before creating new ones.	Proponent/ Contractor	Pre-construction, construction, operation

5 References

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Appendix A: Priority weeds

Priority weeds for the Central Tablelands

Note: This region includes the local council areas of Bathurst Regional, Blayney, Cabonne, Cowra, Lithgow, Mid-Western Regional, Oberon and Orange.

https://weeds.dpi.nsw.gov.au/

Weed	Duty
All plants	**General Biosecurity Duty** *All pest plants are regulated with a **general biosecurity duty** to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.*
Aaron's beard prickly pear *Opuntia leucotricha*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Aaron's beard prickly pear *Opuntia leucotricha*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
African boxthorn *Lycium ferocissimum*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
African boxthorn *Lycium ferocissimum*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
African olive *Olea europaea* subsp. *cus pidata*	**Regional Recommended Measure** Contain recorded populations across the Central Tablelands region. *Whole of region: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Alligator weed *Alternanthera philoxeroide s*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Alligator weed *Alternanthera philoxeroide s*	**Biosecurity Zone** The Alligator Weed Biosecurity Zone is established for all land within the state except land in the following regions: Greater Sydney; Hunter (but only in the local government areas of City of Lake Macquarie, City of Maitland, City of Newcastle or Port Stephens). *Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone*

Anchored water hyacinth *Eichhornia azurea*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Athel pine *Tamarix aphylla*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Bitou bush *Chrysanthemoides monilif era* subsp. *rotundata*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Bitou bush *Chrysanthemoides monilif era* subsp. *rotundata*	**Biosecurity Zone** The Bitou Bush Biosecurity Zone is established for all land within the State except land within 10 kilometres of the mean high water mark of the Pacific Ocean between Cape Byron in the north and Point Perpendicular in the south. *Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone*
Black knapweed *Centaurea* x *moncktonii*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Black willow *Salix nigra*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Blackberry *Rubus fruticosus* species aggregate	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Rubus fruiticosus species aggregate have this requirement, except for the varietals Black Satin, Chehalem, Chester Thornless, Dirksen Thornless, Loch Ness, Murrindindi, Silvan, Smooth Stem, and Thornfree**
Blackberry *Rubus fruticosus* species aggregate	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Blind cactus *Opuntia rufida*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Blind cactus *Opuntia rufida*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*

Blue heliotrope *Heliotropium amplexicaule*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Boneseed *Chrysanthemoides monilif era* subsp. *monilifera*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Boneseed *Chrysanthemoides monilif era* subsp. *monilifera*	**Control Order** Boneseed Control Zone: Whole of NSW *Boneseed Control Zone (Whole of NSW): Owners and occupiers of land on which there is boneseed must notify the local control authority of new infestations; immediately destroy the plants; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of boneseed must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant.*
Boxing glove cactus *Cylindropuntia fulgida* var. *mamillata*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Boxing glove cactus *Cylindropuntia fulgida* var. *mamillata*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Bridal creeper *Asparagus asparagoides*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* ***this requirement also applies to the Western Cape form of bridal creeper**
Bridal creeper *Asparagus asparagoides*	**Regional Recommended Measure** Contain recorded populations across the Central Tablelands region. *Whole of region: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Bridal veil creeper *Asparagus declinatus*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Broomrapes *Orobanche* species	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*

	All species of Orobanche are Prohibited Matter in NSW, except Clover broomrape, Orobanche minor and Australian broomrape, Orobanche cernua var. australiana.
Brown-spined Hudson pear *Cylindropuntia tunicata*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Bunny ears cactus *Opuntia microdasys*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Bunny ears cactus *Opuntia microdasys*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Burr ragweed *Ambrosia confertiflora*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Cabomba *Cabomba caroliniana*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Cane cactus *Austrocylindropuntia cylindrica*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Austrocylindropuntia genus have this requirement**
Cape broom *Genista monspessulana*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Cape broom *Genista monspessulana*	**Regional Recommended Measure** An exclusion zone is established for Cowra Shire Council and Mid-Western Regional Council areas. A core infestation area is established for Upper Macquarie County Council (Bathurst Regional Council, Blayney Council, Lithgow Council and Oberon Council), Orange City Council and Cabonne Council areas. *Within exclusion zone: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found. Within core infestation area: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*

Cat's claw creeper *Dolichandra unguis-cati*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Chicken dance cactus *Opuntia schickendantzii*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Chicken dance cactus *Opuntia schickendantzii*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Chilean needle grass *Nassella neesiana*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Chilean needle grass *Nassella neesiana*	**Regional Recommended Measure** An exclusion zone is established for Mid-Western Regional Council and Orange City Council areas. A core infestation area is established for Bathurst Regional Council, Blayney Council, Cabonne Council and Cowra Shire Council, Lithgow Council and Oberon Council. *Within exclusion zone: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Within core infestation area: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Chinese violet *Asystasia gangetica*	**Control Order** *Owners and occupiers of land on which there is Chinese violet must notify the local control authority for the area if the Chinese violet is part of a new infestation on the land, destroy all Chinese violet on the land ensuring that subsequent generations of Chinese violet are destroyed; and keep the land free of Chinese violet. A person who deals with a carrier of Chinese violet must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant on the land, or on or in a carrier.*
Climbing asparagus *Asparagus africanus*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Climbing asparagus fern *Asparagus plumosus*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Common pear *Opuntia stricta*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Common pear *Opuntia stricta*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell,*

	move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.
Coolatai grass *Hyparrhenia hirta*	**Regional Recommended Measure** Contain recorded populations across the Central Tablelands region. Goal will be to contain Coolatai grass spread across the whole region with focus on preventing spread or potential spread into production areas. *Whole of region: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Creeping pear *Opuntia humifusa*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Creeping pear *Opuntia humifusa*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Eurasian water milfoil *Myriophyllum spicatum*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Eve's needle cactus *Austrocylindropuntia subulata*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Austrocylindropuntia genus have this requirement**
Fireweed *Senecio madagascariensis*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Fireweed *Senecio madagascariensis*	**Regional Recommended Measure** An exclusion zone is established for all lands in the Central Tablelands region except the identified core infestation area. A core infestation area is established for the Bylong Valley - Ulan and Kanimbla Valley (lower Cox River catchment) areas. *Within exclusion zone: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found. Within core infestation area: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Flax-leaf broom *Genista linifolia*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*

Foxtail fern *Asparagus densiflorus*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Frogbit *Limnobium laevigatum*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species of Limnobium are Prohibited Matter**
Gamba grass *Andropogon gayanus*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Giant Parramatta grass *Sporobolus fertilis*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Giant reed *Arundo donax*	**Regional Recommended Measure** An exclusion zone is established for Blayney Council, Lithgow Council, Oberon Council, Cabonne and Orange City Council areas. A core infestation area is established for Bathurst Regional Council, Mid-Western Regional Council and Cowra Shire Council. *Within exclusion zone: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Within core infestation area: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Gorse *Ulex europaeus*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Gorse *Ulex europaeus*	**Regional Recommended Measure** An exclusion zone is established for Mid-Western Regional Council, Cabonne Council, Orange City Council and Cowra Shire Council areas. A core infestation area is established for Upper Macquarie County Council area (Lithgow Council, Bathurst Regional Council, Oberon Council and Blayney Council areas). *Within exclusion zone: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Within core infestation area: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*

Green cestrum *Cestrum parqui*	**Regional Recommended Measure** Contain recorded populations across the Central Tablelands region. *Whole of region: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Grey sallow *Salix cinerea*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Ground asparagus *Asparagus aethiopicus*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Harrisia cactus *Harrisia* species	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Hawkweeds - Hieraciums *Hieracium* species	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species in the genus *Hieracium* are Prohibited Matter except for *Hieracium murorum* (wall hawkweed).**
Hawkweeds - Pilosellas *Pilosella* species	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species in the genus *Pilosella* are Prohibited Matter**
Honey locust *Gleditsia triacanthos*	**Regional Recommended Measure** Contain recorded populations across the Central Tablelands region. *Whole of region: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.* **Garden varieties derived from *Gleditsia triacanthos* var. *inermis* cultivars are not included in this listing. However, if the grafted top dies then the root stock wildings should be controlled.**
Horsetails *Equisetum* species	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*

Hudson pear *Cylindropuntia pallida*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Hudson pear *Cylindropuntia pallida*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Hydrocotyl *Hydrocotyle ranunculoides*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Hymenachne *Hymenachne amplexicauli s* and hybrids	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Jumping cholla *Cylindropuntia prolifera*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Cylindropuntia genus have this requirement**
Jumping cholla *Cylindropuntia prolifera*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.* **All species in the Cylindropuntia genus have this requirement except Rope pear *Cylindropuntia imbricata*.**
Karoo acacia *Vachellia karroo*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
King devil hawkweed *Pilosella piloselloides*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species in the genus *Pilosella* are Prohibited Matter**
Kochia *Bassia scoparia*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **Excluding the subspecies *trichophylla***
Koster's curse *Clidemia hirta*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an*

	offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Lagarosiphon *Lagarosiphon major*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Lantana *Lantana camara*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Madeira vine *Anredera cordifolia*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Madeira vine *Anredera cordifolia*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Mesquite *Prosopis* species	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the genus *Prosopis* have this requirement**
Mexican feather grass *Nassella tenuissima*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Miconia *Miconia* species	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species of *Miconia* are Prohibited Matter in NSW**
Mikania vine *Mikania micrantha*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* ***all species in the genus *Mikania* are Prohibited Matter in NSW**
Mimosa *Mimosa pigra*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Mother-of-millions *Bryophyllum* species	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A*

	person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.
Mouse-ear hawkweed *Pilosella officinarum*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species in the genus *Pilosella* are Prohibited Matter**
Orange hawkweed *Pilosella aurantiaca*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species in the genus *Pilosella* are Prohibited Matter**
Ox-eye daisy *Leucanthemum vulgare*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Pampas grass *Cortaderia* species	**Regional Recommended Measure** Contain recorded populations across the Central Tablelands region. Goal will be to contain pampas grass spread across the whole region with focus on spread or potential spread into conservation or natural areas. *Whole of region: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Parkinsonia *Parkinsonia aculeata*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Parkinsonia *Parkinsonia aculeata*	**Control Order** Parkinsonia Control Zone: Whole of NSW *Parkinsonia Control Zone (Whole of NSW): Owners and occupiers of land on which there is parkinsonia must notify the local control authority of new infestations; immediately destroy the plants; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of parkinsonia must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant.*
Parthenium weed *Parthenium hysterophorus*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Parthenium weed *Parthenium hysterophorus*	**Prohibition on certain dealings** *The following equipment must not be imported into NSW from Queensland: grain harvesters (including the comb or front), comb trailers (including the comb or front), bins*

	used for holding grain during harvest operations, augers or similar for moving grain, vehicles used to transport grain harvesters, support vehicles driven in paddocks during harvest operations, mineral exploration drilling rigs and vehicles used to transport those rigs, unless set out as an exception in Division 5, Part 2 of the Biosecurity Order (Permitted Activities) 2017
Pencil cactus *Cylindropuntia leptocaulis*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Cylindropuntia genus have this requirement**
Pencil cactus *Cylindropuntia leptocaulis*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.* **All species in the Cylindropuntia genus have this requirement except Rope pear *Cylindropuntia imbricata*.**
Pond apple *Annona glabra*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Prickly acacia *Vachellia nilotica*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Prickly pears - Austrocylindropuntias *Austrocylindropuntia* species	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Austrocylindropuntia genus have this requirement**
Prickly pears - Cylindropuntias *Cylindropuntia* species	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Cylindropuntia genus have this requirement**
Prickly pears - Cylindropuntias *Cylindropuntia* species	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.* **All species in the Cylindropuntia genus have this requirement except Rope pear *Cylindropuntia imbricata*.**
Prickly pears - Opuntias *Opuntia* species	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **For all Opuntia species except for *Opuntia ficus-indica* (Indian fig).**

Prickly pears - Opuntias *Opuntia* species	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.* **This Regional Recommended Measure applies to all species of Opuntia.**
Privet - broad-leaf *Ligustrum lucidum*	**Regional Recommended Measure** Contain recorded populations across the Central Tablelands region. Excludes urban areas across the region except for Orange City Council. Orange City Council has a local privet management plan to control privet in the urban areas. *Whole of region: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.* **Duty does not apply for urban areas in the Central Tablelands region other than Orange City Council.**
Privet - European *Ligustrum vulgare*	**Regional Recommended Measure** Contain recorded populations across the Central Tablelands region. Excludes urban areas across the region except for Orange City Council. Orange City Council has a local privet management plan to control privet in the urban areas. *Whole of region: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.* **Duty does not apply for urban areas in the Central Tablelands region other than Orange City Council.**
Privet - narrow-leaf *Ligustrum sinense*	**Regional Recommended Measure** Contain recorded populations across the Central Tablelands region. Excludes urban areas across the region except for Orange City Council. Orange City Council has a local privet management plan to control privet in the urban areas. *Whole of region: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.* **Duty does not apply for urban areas in the Central Tablelands region other than Orange City Council.**
Riverina pear *Opuntia elata*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Riverina pear *Opuntia elata*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Rope pear *Cylindropuntia imbricata*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Cylindropuntia genus have this requirement.**

Rope pear *Cylindropuntia imbricata*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Rubber vine *Cryptostegia grandiflora*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Sagittaria *Sagittaria platyphylla*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Sagittaria *Sagittaria platyphylla*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Salvinia *Salvinia molesta*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Scotch broom *Cytisus scoparius* subsp. *scoparius*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Scotch broom *Cytisus scoparius* subsp. *scoparius*	**Regional Recommended Measure** An exclusion zone is established for Cowra Shire Council and Mid-Western Regional Council areas. A core infestation area is established for Upper Macquarie County Council (Bathurst Regional Council, Blayney Council, Lithgow Council and Oberon Council), Orange City Council and Cabonne Council areas. *Within exclusion zone: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found. Within core infestation area: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Serrated tussock *Nassella trichotoma*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Serrated tussock *Nassella trichotoma*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*

Siam weed *Chromolaena odorata*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Silverleaf nightshade *Solanum elaeagnifolium*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Silverleaf nightshade *Solanum elaeagnifolium*	**Regional Recommended Measure** Contain recorded populations across the Central Tablelands region. Goal will be to contain silverleaf nightshade spread across the whole region with focus on spread or potential spread into production areas. *Whole of region: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Smooth tree pear *Opuntia monacantha*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Smooth tree pear *Opuntia monacantha*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Snake cactus *Cylindropuntia spinosior*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the Cylindropuntia genus have this requirement**
Snake cactus *Cylindropuntia spinosior*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.* **All species in the Cylindropuntia genus have this requirement except Rope pear *Cylindropuntia imbricata*.**
Snakefeather *Asparagus scandens*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Spanish heath *Erica lusitanica*	**Regional Recommended Measure** An exclusion zone is established for Bathurst Regional Council, Blayney Council, Cabonne Council, Cowra Shire Council, Mid-Western Regional Council, Oberon Council, and Orange City Council areas. A core infestation area is established for Lithgow Council area. *Within exclusion zone: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant.* *Within core infestation area: Land managers should mitigate the risk of the plant being*

	introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.
Spiny burrgrass - longispinus *Cenchrus longispinus*	**Regional Recommended Measure** Contain recorded populations across the Central Tablelands region. Goal will be to contain spiny burr grass spread across the whole region with focus on spread or potential spread into production areas. *Whole of region: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Spiny burrgrass - spinifex *Cenchrus spinifex*	**Regional Recommended Measure** Contain recorded populations across the Central Tablelands region. Goal will be to contain spiny burr grass spread across the whole region with focus on spread or potential spread into production areas. *Whole of region: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Spongeplant *Limnobium spongia*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species of *Limnobium* are Prohibited Matter**
Spotted knapweed *Centaurea stoebe* subsp. *micranthos*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
St. John's wort *Hypericum perforatum*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Sticky nightshade *Solanum sisymbriifolium Regional recommended measure for Central Tablelands from February 2020*	**Regional Recommended Measure** An exclusion zone is established for all lands in the Central Tablelands region except the identified core infestation area. The core infestation area of the Belubula River Catchment in Blayney Council, Cabonne Council and Cowra Shire Council areas is bounded by roads as described below. • South-east of Cargo Road between Canowindra and Cargo • South of Edinboro Lane – Charleville Road – Four Mile Creek Road – Cadia Road – Orchard Road – Forest Road – Whiley Road – Millthorpe Road on a line passing from Cargo - Spring Terrace - Spring Hill – Millthorpe. • West of Millthorpe Road between Millthorpe and Blayney • North of the Mid-Western Highway and George Russell Drive from Canowindra to Blayney. *Within exclusion zone: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include*

	but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found. Within core infestation area: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.
Tiger pear *Opuntia aurantiaca*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Tiger pear *Opuntia aurantiaca*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Tropical soda apple *Solanum viarum*	**Control Order** Tropical Soda Apple Control Zone: Whole of NSW *Tropical Soda Apple Control Zone (Whole of NSW): Owners and occupiers of land on which there is tropical soda apple must notify the local control authority of new infestations; destroy the plants including the fruit; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of tropical soda apple must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant on the land, or on or in a carrier.*
Tutsan *Hypericum androsaemum*	**Regional Recommended Measure** An exclusion zone is established for Bathurst Regional Council, Blayney Council, Cabonne Council, Cowra Shire Council, Mid-Western Regional Council, Lithgow Council and Orange City Council areas. A core infestation area is established for Oberon Council area. *Within exclusion zone: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. Notify local control authority if found. Within core infestation: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Velvety tree pear *Opuntia tomentosa*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Velvety tree pear *Opuntia tomentosa*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Water caltrop *Trapa* species	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species in the *Trapa* genus are Prohibited Matter in NSW**

Water hyacinth *Eichhornia crassipes*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Water hyacinth *Eichhornia crassipes*	**Biosecurity Zone** The Water Hyacinth Biosecurity Zone applies to all land within the State, except for the following regions: Greater Sydney or North Coast, North West (but only the local government area of Moree Plains), Hunter (but only in the local government areas of City of Cessnock, City of Lake Macquarie, MidCoast, City of Maitland, City of Newcastle or Port Stephens), South East (but only in the local government areas of Eurobodalla, Kiama, City of Shellharbour, City of Shoalhaven or City of Wollongong). *Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone*
Water soldier *Stratiotes aloides*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*
Wheel cactus *Opuntia robusta*	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.*
Wheel cactus *Opuntia robusta*	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.*
Willows *Salix* species	**Prohibition on certain dealings** *Must not be imported into the state, sold, bartered, exchanged or offered for sale.* **All species in the *Salix* genus have this requirement, except *Salix babylonica* (weeping willows), *Salix x calodendron* (pussy willow) and *Salix x reichardtii* (sterile pussy willow)**
Witchweeds *Striga* species	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries* **All species in the *Striga* genus are Prohibited Matter in NSW, except the native *Striga parviflora***
Yellow burrhead *Limnocharis flava*	**Prohibited Matter** *A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries*

“The content provided here is for information purposes only and is taken from the *Biosecurity Act 2015* and its subordinate legislation, and the Regional Strategic Weed Management Plans (published by each Local Land Services region in NSW). It describes the state and regional priorities for weeds in New South Wales, Australia” (NSW DPI, 2024).

APPENDIX C

ABORIGINAL CULTURAL HERITAGE CONSTRAINTS ASSESSMENT

BOWDENS SILVER PROJECT – PROPOSED POWERLINE

Bowdens Silver Project

66 kV electricity transmission line

66 kV ETL

Aboriginal Cultural Heritage Constraints Assessment

Report to Bowdens Silver Pty Ltd

25 March 2025

Landskape

a division of ML Cupper Pty Ltd
ABN 48 107 932 918

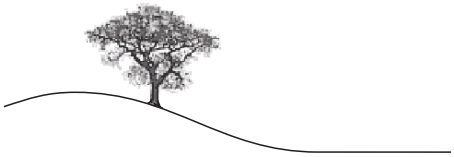
PO Box 1068 Carlton
e mail: mattcupper@telstra.com
tel: 0408 006 690

Bowdens Silver Project
66 kV electricity transmission line

66 kV ETL

Aboriginal Cultural Heritage Constraints Assessment

Report to Bowdens Silver Pty Ltd



Landskape

Natural and Cultural Heritage Management

a division of M.L. Cupper Pty Ltd

ABN: 48 107 932 918

Author: **Dr Matt Cupper**

Date: **25 March 2025**

PO Box 1068 Carlton 3053
e mail: mattcupper@telstra.com
tel: 0408 006 690

Preamble

This Aboriginal cultural heritage constraints assessment presents an assessment of the risk the proposed activity may have to cause harm to Aboriginal cultural heritage. The *National Parks and Wildlife Act 1974* (NPW Act) provides that a person who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability offence if they later unknowingly harm an object without an Aboriginal Heritage Impact Permit (AHIP).

The NPW Act allows for a generic code of practice to explain what due diligence means. Carefully following the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010), which is adopted by the *National Parks and Wildlife Regulation* 2009 (NPW Regulation) made under the NPW Act, would be regarded as 'due diligence'. The code of practice can be used for all activities across all environments. The code sets out the reasonable and practicable steps which individuals and organisations need to take in order to: identify whether or not Aboriginal objects are, or are likely to be, present in an area; determine whether or not their activities are likely to harm Aboriginal objects (if present); and, determine whether an AHIP application is required.

If Aboriginal objects are present or likely to be present and an activity will harm those objects, then an AHIP application will be required.

This assessment is not intended to replace the need for a detailed Aboriginal cultural heritage assessment, Cultural Heritage Management Plan, or other agreement, or consultation with Aboriginal stakeholders about your activity, as may be required under the NPW Act for activities that would harm Aboriginal cultural heritage.

Executive Summary

Bowdens Silver Pty Ltd requires a 66 kV electricity transmission line (ETL) to be installed over a distance of approximately 14 km to provide power to the Bowdens Silver Project at Lue. A study area, within which the ETL could be located, has been proposed that is approximately 14 km in length and approximately 1 km wide. The ETL is proposed to traverse roadways and some farmland, be located both above and below ground.

As part of the planning approvals process preceding the proposal, Landskape was engaged by Bowdens Silver Pty Ltd to conduct a preliminary investigation to identify any possible Aboriginal cultural heritage issues that might need to be addressed prior to the proposed works.

Twelve Aboriginal cultural heritage sites have previously been recorded in the study area. These comprise nine stone artefact sites, two axe grinding groove sites and one potential archaeological deposit.

Predictive modelling complemented by field inspection shows parts of the study area are disturbed land as defined by the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010). There is low potential for Aboriginal objects to occur in disturbed land. The proposed activities could proceed with caution in these areas as there is generally low risk that they would harm Aboriginal cultural heritage.

Parts of the study area are undisturbed land with a moderate potential for containing Aboriginal cultural heritage. Any proposed activities in these areas should be preceded by an Aboriginal cultural heritage assessment.

In the event any previously unidentified Aboriginal objects are encountered during the course of the proposed works all activities likely to affect the material must cease immediately and the Environmental Line (tel: 131 555) consulted about an appropriate course of action prior to recommencement of work. It is an offence under the *National Parks and Wildlife Act* 1974 to disturb or destroy Aboriginal cultural heritage items without written consent of Heritage NSW.

If human skeletal remains are encountered during the course of the proposed works all activities in that area must cease. Remains must not be handled or otherwise disturbed except to prevent further disturbance. NSW Police and the State Coroner's Office (tel: 02 9552 4066) must be notified. If there is reason to suspect that the skeletal remains are more than 100 years old and Aboriginal, the proponent should contact the Environmental Line (tel: 131 555) for advice.

Contents

1 Introduction

Bowdens Silver Pty Ltd requires a 66 kV electricity transmission line (ETL) to be installed over a distance of approximately 14 km for the Bowdens Silver Project at Lue. A study area, within which the ETL could be located, has been proposed that is approximately 14 km length and approximately 1 km wide. Whilst the alignment of the ETL within the study area is yet to be determined, itis proposed to traverse roadways and some farmland and could be located both above and below ground.

As part of the planning approvals process preceding the proposal, Landskape was engaged by Bowdens Silver Pty Ltd to complete a preliminary investigation to identify any possible Aboriginal cultural heritage issues that might need to be addressed prior to the proposed works. The purpose of this report is to identify Aboriginal cultural heritage constraints within the study area in relation to the development of a transmission line. It identifies areas that should be avoided in the final design of the transmission line and sensitive landscapes where further work and attention is required.

1.1 Study Area Context

1.1.1 Location, geology, soils, vegetation and land use

The study area is located in the upper catchment of the Macquarie River in the southwest slopes region of central western NSW. It occupies an undulating terrain between the lowlands of the Macquarie River plains and Blue Mountains of the Great Dividing Range. The climate is dry sub-humid, receiving on average approximately 670 mm of rainfall per annum (see Landskape 2020).

The study area comprises hills and ridges of Palaeozoic sedimentary and volcanic bedrock, which slope down to Quaternary (less than a few million years old) alluvial plains (see Landskape 2020). The summits of the major hills are volcanics, conglomerates and sandstones. The lower slopes have weathered colluvium and low-lying areas are alluvial valley fill comprising channel and overbank deposits of gravel and silt. Soils of the hills, ridges and slopes are mostly sandy or stony, with rhyolite and sandstone beds frequently outcropping. Soils on the alluvial terraces are gravelly silts and silty clays.

Stringybark (*Eucalyptus oblonga*), Scribbly Gum (*E. rossii*), Rough-barked Apple (*Angophora floribunda*) and White Cypress Pine (*Callitris glaucophylla*) woodland of varying condition remains on the summits and slopes of the hills and along the stony ridges (see Cupper 2020). Remnant, isolated paddock trees including White Box (*Eucalyptus albens*), Yellow Box (*E. melliodora*) and Blakely's Red Gum (*E. blakelyi*) are

scattered across the predominantly cleared lower elevation sections and in the valleys. Native and introduced pasture grasses primarily occur in these areas.

Overall, the environment of the study area has been modified by past European land use practices to varying extents. The alluvial valleys and lower hill slopes have been cleared for agricultural cropping and sheep and cattle grazing following European settlement in the second half of the nineteenth century. Remnant woodland persists in areas not suitable for agriculture, including on stony hills and along creeks and roads.

1.1.2 Aboriginal cultural heritage

Aboriginal people of the Wiradjuri language group occupied the southwest slopes at the time of first contact with European observers.

The most relevant previous archaeological research to inform this investigation is the Aboriginal cultural heritage assessment report for the Bowdens Silver Project, to the immediate west of the study area (Landskape 2020).

The material culture of past Aboriginal occupants of that project area comprises 45 dispersed stone artefact scatters, 27 isolated finds of stone artefacts, one rock shelter with stone artefacts and potential archaeological deposits and two scarred trees. Assemblages contain varying abundances of artefacts (from one to several hundred). Some formal implements are present, but overwhelmingly the assemblages are dominated by unmodified flakes, flaked pieces and angular fragments and large cores. This reflects the abundance of locally-derived lithic types (chert, quartz, mudstone and fined grained volcanics).

The location of freshwater sources are likely to have been the main controlling factor of Aboriginal occupation of the study area. People carry out most of their activities close to fresh water, rarely journeying far from reliable water sources. They also prefer larger or more persistent water sources to smaller, ephemeral water bodies.

Streams and wetlands in the study area include Lawsons Creek, Breakfast Creek, Reedy Creek, Long Gully and other unnamed waterways, intermittent watercourses that episodically flow for brief periods after heavy rain. However, these streams retain pools of surface water for some months in waterholes.

The larger Aboriginal archaeological sites with the greatest abundance and diversity of artefacts previously known from the Bowdens Silver Project study are all within 500 m of creeks (Landskape 2020). Peak past Aboriginal occupation is interpretated have corresponded to when these transient supplies were available. Almost all of the other Aboriginal cultural heritage sites are also located on level ground adjacent to temporary water sources.

2 Constraints Assessment

What is the nature of the activity?	Bowdens Silver Pty Ltd requires the installation of a 66kV ETL over a distance of approximately 14 km for the Bowdens Silver Project at Lue. A study area, within which the ETL could be located, has been proposed. Whilst the alignment of the ETL is yet to be finalised within the study area, it is possible the ETL may traverse roadways and some farmland and could be located both above and below ground.
Are there any previously recorded Aboriginal cultural heritage sites or registered Aboriginal places within the study area?	Twelve Aboriginal cultural heritage sites have previously been recorded within the study area according to Heritage NSW's Aboriginal Heritage Information Management System (AHIMS), accessed on 14 November 2024 (search number 950476; Attachment 1). These comprise nine stone artefact sites, two axe grinding groove sites and one potential archaeological deposit.
Does the study area contain disturbed land	Yes. The study area been subject to past disturbance to varying degrees and pasts meet the definition of "disturbed land" as defined by the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010). The extent of past ground and surface disturbance across the study area was determined through analysis of historical aerial imagery from 1990-2023. The formed gravel roads of the study area have previously been cleared of all woodland vegetation and understorey shrubs. Past earthworks in roads include road formation, excavation of verge and gutters and grading. In farmland, disturbance is less extensive and mostly comprises tree clearance. Some areas have been cultivated for agricultural cropping. There are some undisturbed areas in stands of remnant woodland and along creek lines. An analysis of aerial imagery from 1990-2023 was completed to identify the extent of disturbed land.

Will the proposed Project activities disturb the ground surface?	Yes. Disturbance by earthworks would occur along portions of the final infrastructure corridor.	
Are there any high-risk Landscape Features within or near the study area?	Yes. There are 'Landscape Features', as described in Step 2b of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010), in and near the study area. Such features are commonly identified as places of importance to Aboriginal people. Specifically, parts of the study area are within 200 m of waters (Lawsons Creek, Breakfast Creek, Reedy Creek, Long Gully and other unnamed waterways) and 200 m of ridge tops which may contain cliff faces and caves.	
Landscape Feature:	Within 200 m of waters	Yes
	Sand dune system	No
	Located on a ridge top, ridge line or headland	Yes
	Within 200 m of a cliff face	Yes
	Within 20 m of caves, rock shelter or a cave mouth	Yes
Are there any other sources of information of which a person is aware?	Not aware. Bowdens Silver Pty Ltd should consult with Aboriginal community stakeholders to ascertain whether there is any knowledge of Aboriginal cultural heritage in the study area.	
Are there any political or community issues or concerns in relation to the study area?	Not aware. Bowdens Silver Pty Ltd should consult with Aboriginal community stakeholders to ascertain whether there is any knowledge of Aboriginal cultural heritage in the study area.	

Does the site visit confirm the findings of the due diligence desktop assessment?	Yes. Visual inspection of the study area on 5 November 2024 confirmed parts have been subject to significant ground and surface disturbance ('disturbed land' according to the definition of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* [DECCW 2010]) owing to vegetation clearance, agricultural ploughing and road construction (Appendix 2). The desktop assessment was confirmed by the site inspection by an appropriately qualified archaeologist (Dr Matt Cupper) that there is generally a low to moderate risk for Aboriginal objects to be located within the study area. The visual inspection focused on validating the results of the desktop assessment, especially the effects of past land use disturbance in the study area. No formal archaeological survey was undertaken, although the visible presence of any archaeological evidence or environmental indicators for surface and subsurface archaeological potential were considered during the visual inspection. Evidence of past ground and surface disturbance was evident. Vegetation clearance, agricultural ploughing and access road and contour bank and channel construction visible in the aerial imagery were confirmed by field observations.
What is the likelihood that the activity will harm Aboriginal cultural heritage?	Low for disturbed land, moderate for undisturbed land. There is a low to moderate risk the proposed Project activities would cause harm to Aboriginal cultural heritage. The proximity to significant 'Landscape Features' (water, cliff faces) indicates some residual intangible cultural heritage may exist within or near the study area. There are twelve previously recorded Aboriginal objects or cultural heritage places noted within the study area.

What is the outcome of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010)?	Twelve Aboriginal cultural heritage sites have previously been recorded within the study area. These comprise nine stone artefact sites, two axe grinding groove sites and one potential archaeological deposit. Predictive modelling complemented by field inspection shows that the study area to varying extents is disturbed land as defined by the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010) and there is low to moderate potential for Aboriginal objects to occur. The proposed activities could proceed with caution if the proposed 66 kV ETL were to be installed in disturbed land as there is generally low risk that it would harm Aboriginal cultural heritage. If the proposed 66 kV ETL were to be installed in undisturbed land, there is a moderate risk of harming Aboriginal cultural heritage, and the activity would require an Aboriginal cultural heritage assessment prior to any ground disturbance activities.

3 Recommendation

Twelve Aboriginal cultural heritage sites have previously been recorded within the study area. These comprise nine stone artefact sites, two axe grinding groove sites and one potential archaeological deposit.

Predictive modelling complemented by field inspection shows parts of the study area are disturbed land as defined by the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010). There is low potential for Aboriginal objects to occur in disturbed land. The proposed activities could proceed with caution in these areas as there is generally low risk that they would harm Aboriginal cultural heritage.

Parts of the study area are undisturbed land with a moderate potential for containing Aboriginal cultural heritage. Any proposed activities in these areas should be preceded by an Aboriginal cultural heritage assessment.

In the event any previously unidentified Aboriginal objects are encountered during the course of the proposed works all activities likely to affect the material must cease immediately and the Environmental Line (tel: 131 555) consulted about an appropriate course of action prior to recommencement of work. It is an offence under the *National Parks and Wildlife Act* 1974 to disturb or destroy Aboriginal cultural heritage items without written consent of Heritage NSW.

If human skeletal remains are encountered during the course of the proposed works all activities in that area must cease. Remains must not be handled or otherwise disturbed except to prevent further disturbance. NSW Police and the State Coroner's Office (tel: 02 9552 4066) must be notified. If there is reason to suspect that the skeletal remains are more than 100 years old and Aboriginal, the proponent should contact the Environmental Line (tel: 131 555) for advice.

4 References

Department of Environment, Climate Change and Water (DECCW) (2010). *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*.

Landskape (2020). *Aboriginal and Historical Cultural Heritage Assessment for Bowdens Silver Project*. Report to Bowders Silver Pty Ltd

Appendix 1.

AHIMS Search Results

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : Lue

Client Service ID : 950475

LandSkape - Natural & Cultural Heritage Management

P O Box 246
Merbein Victoria 3505

Attention: Matt Cupper

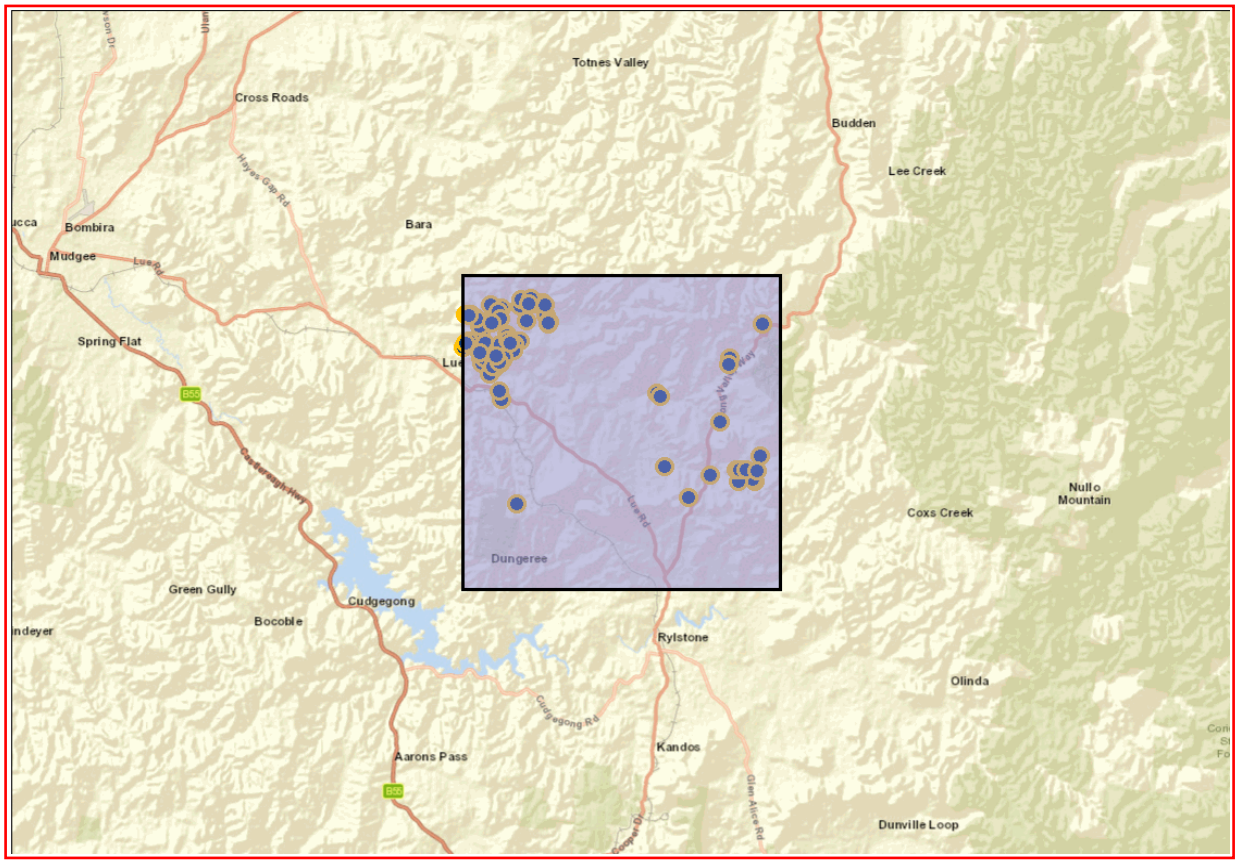
Email: landskape@telstra.com

Date: 14 November 2024

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -32.77, 149.85 - Lat, Long To : -32.6, 150.05, conducted by Matt Cupper on 14 November 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

107	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *