MALABAR

MAXWELL UNDERGROUND MINE

BIODIVERSITY MANAGEMENT PLAN

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1 INTRODUCTION

1.1 Background

Maxwell Ventures (Management) Pty Ltd (Maxwell), a wholly owned subsidiary of Malabar Resources Limited (Malabar) owns and operates the Maxwell Underground (UG) Mine (the site). The site is located in the Upper Hunter Valley of New South Wales (NSW), east-southeast of Denman and south-southwest of Muswellbrook. The site is approved to extract a maximum of 8 million tonnes of run-of-mine coal per year over a period of 26 years. The site boundary is shown in **Figure 1**.

The site consists of the following areas:

- Underground area comprising underground mining operations and the mine entry area (MEA) to support underground mining and coal handling activities and provide for personnel and materials access;
- Maxwell Infrastructure (formerly Drayton Mine) comprising previous open cut mining areas, existing coal handling and preparation plant, train load-out facilities and rail loop, Antiene rail spur and other infrastructure and services; and
- Transport and services corridor between the underground area and Maxwell Infrastructure comprising the proposed site access road, covered overland conveyor, power supply and other ancillary infrastructure and services.

The area within and surrounding the site, which has previously been known as Mt Arthur South, Saddlers Creek and Drayton South, has long been identified as having a significant in-situ coal resource. Prospecting for coal commenced in the late 1940s, with exploration intensifying during the 1960's and 1970s. Open cut coal extraction and mining activities commenced at Maxwell Infrastructure in 1983 and ceased in October 2016. The previous open cut mining area is currently in the rehabilitation phase of the mine operations.

The development consent for State Significant Development 9526 (SSD 9526) was granted on 22 December 2020 under clause 8A of the *State Environmental Planning Policy (State and Regional Development) 2011* and section 4.5(a) of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The development consent was modified on 19 November 2021 (Maxwell MOD1) to allow for the repositioning of infrastructure primarily at the MEA and realignment of a section of the site access road. The development consent was further modified (Maxwell MOD2) on 19 October 2022 to allow for the following:

- Re-orientation of the longwall panels in the Woodlands Hill, Arrowfield and Bowfield Seams resulting in a minor increase in the approved underground mining extent.
- Reduction in the width of some of the longwall panels in the Woodlands Hill Seam.
- Repositioning of the upcast ventilation shaft site and associated infrastructure.
- Other minor works and ancillary infrastructure components (e.g. access road and ancillary water management infrastructure for the repositioned ventilation shaft site).

Another modification was made to the development consent (Maxwell MOD3) on 22 September 2025 to allow for the transfer of tailings from Mt Arthur Coal to the Maxwell UG Mine East Void, and tailings and coarse rejects from the Maxwell CHPP to the North Void.

The site also incorporates the development formerly authorised under the Maxwell Infrastructure Project Approval (PA) 06_0202. Development Consent DA 106-04-00 for the existing rail loop and Antiene Rail Spur was granted on 2 November 2000 under section 76(A)9 and 80 of the EP&A Act. DA 106-04-00 was modified on 18 September 2023 (Antiene MOD1) to align with the approved operating life of the Maxwell Underground Mine (i.e. until 2047).

1.2 Purpose and Scope

The purpose of this Biodiversity Management Plan (BMP) is to detail statutory requirements and to outline the short, medium and long-term management measures for vegetation and fauna habitat within:

- the Drayton Wildlife Refuge, Northern Offset Area and Southern Offset Area (jointly referred to as the Maxwell Infrastructure Biodiversity Offset Areas) required under Schedule 2, Conditions B45 and B46 of Development Consent SSD 9526;
- the approved disturbance areas in accordance with Schedule 2, Condition A12 of Development Consent SSD 9526;
- the study areas associated with the Whynot Seam Panels 2-5 Extraction Plan and the revised Woodlands Hill Longwalls 1-4 Extraction Plan in accordance with Schedule 2, Condition C(8)(g)(iv) of Development Consent SSD 9526; and
- remnant vegetation and fauna habitat in areas not likely to be impacted by the mine.

The Maxwell Infrastructure Biodiversity Offset Areas, approved disturbance areas and remnant vegetation and fauna habitat in areas not likely to be impacted by the mine, are collectively referred to as the "biodiversity management areas" in this BMP. This BMP is one of a series of Environmental Management Plans that together form the Environmental Management System for the site. In accordance with Schedule 2, Condition B51 of Development Consent SSD 9526, management plans prepared for the site will be consistent with EPL1323.

The Maxwell Infrastructure Biodiversity Offsets Areas comprise the Drayton Wildlife Refuge, Northern Offset Area and Southern Offset Area, and their locations are shown on **Figure 2**. These areas were established as offsets for the former Drayton Mine. The Wildlife Refuge was established on land owned by the former Drayton Mine in 1987. Baseline data for the Drayton Wildlife Refuge, Northern Offset Area and Southern Offset Area are discussed in **Sections 2.4.1, 2.4.2** and **2.4.3** respectively. Areas of threatened flora species and threatened fauna species have been identified on the site and are discussed further in **Section 2.4.4** and **Section 2.4.5** respectively.

As discussed in **Section 2.5**, the biodiversity offset requirements for the Maxwell Underground and Edderton Road Realignment (Conditions B47 to 49, 50A and 50B of Development Consent SSD 9526) will be addressed separately in accordance with the NSW Biodiversity Offset Scheme under the *Biodiversity Conservation Act 2016* (BC Act). Accordingly, the management of these offset areas does not form part of the scope of this BMP.

In accordance with Schedule 2, Part C, Condition C9 of Development Consent SSD 9526, Maxwell will not undertake second workings in any seam until the relevant Extraction Plan is approved by the Planning Secretary. Maxwell will implement all Extraction Plans as approved by the Planning Secretary and further extraction plans will be prepared to the satisfaction of the Planning Secretary prior to any second workings in the Arrowfield and Bowfield seams.

Management of biodiversity in rehabilitation domains is not included in this BMP. Management of rehabilitation domains is detailed in the Rehabilitation Management Plan required by Schedule 2, Condition B82 of Development Consent SSD 9526.

1.3 Document History

In accordance with Schedule 2, Condition B52 of Development Consent SSD 9526, Maxwell did not commence construction until a BMP was approved by the Planning Secretary.

On 22 April 2022 Maxwell gave written notice to the Department of Planning and Environment (DPE; now known as the Department of Planning, Housing and Infrastructure [DPHI]) of the date of commencement of construction, in accordance with Condition A13(b), Schedule 2 of Development Consent SSD 9526. Construction of the site commenced in May 2022.

This BMP was updated in May 2024 for the development of the Whynot Seam Panels 2-5 Extraction Plan.

The BMP was updated again for the development of the Woodlands Hill Longwalls 1-4 Extraction Plan. The Woodlands Hill Longwalls 1-4 Extraction Plan was approved in September 2025.

This latest version of the BMP includes minor amendments following the approval of Maxwell MOD3 and amendments to the Woodlands Hill Longwalls 1-4 Extraction Plan (discussed below).

Following further mine planning and geotechnical review, Maxwell has decided to refine the dimensions of WHLW3 and WHLW4 to optimise resource recovery and improve mine economics while remaining within the approved underground mining domain and development layout. This amendment includes the following minor changes:

- WHLW2 – A decrease in tailgate chain pillar width from 30 metres (m) to 24 m.
- WHLW3 – An increase in longwall void width from 150 m to 255 m and decrease in tailgate chain pillar width from 30 m to 28 m.
- WHLW4 – An increase in longwall void width from 150 m to 255 m, increase the tailgate chain pillar width from 30 m to 32 m, and extend the finishing (i.e. eastern) end by approximately 110 m.

As a consequence of the above changes, WHLW15 has also been removed so that the southern extent of the longwall series remains within the approved extent of longwall mining.

1.4 Objectives

The objectives of this BMP are to:

- detail all relevant statutory requirements;
- provide relevant baseline data;
- provide baseline data for threatened species, populations and their habitats and riparian vegetation within the subsidence area and adjacent to Saddlers Creek and Saltwater Creek in the vicinity of the development;
- describe the short, medium and long-term measures to be implemented to manage remnant vegetation and fauna habitat;
- describe how biodiversity management would be integrated with other environmental management plans;
- describe a program to monitor and report on the effectiveness of the implemented measures;
- detail performance measures for evaluating Maxwell biodiversity offset areas and provide triggers for remedial action where these performance criteria are not met;
- detail the procedure for reporting biodiversity related exceedances and incidents to relevant stakeholders;
- provide for the adaptive management of potential impacts and environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna;
- provides for the active management of identified populations or previously recorded locations of Pine Donkey Orchid (*Diuris tricolor)* within the subsidence area; and
- manage complaints related to biodiversity in a timely and effective manner.

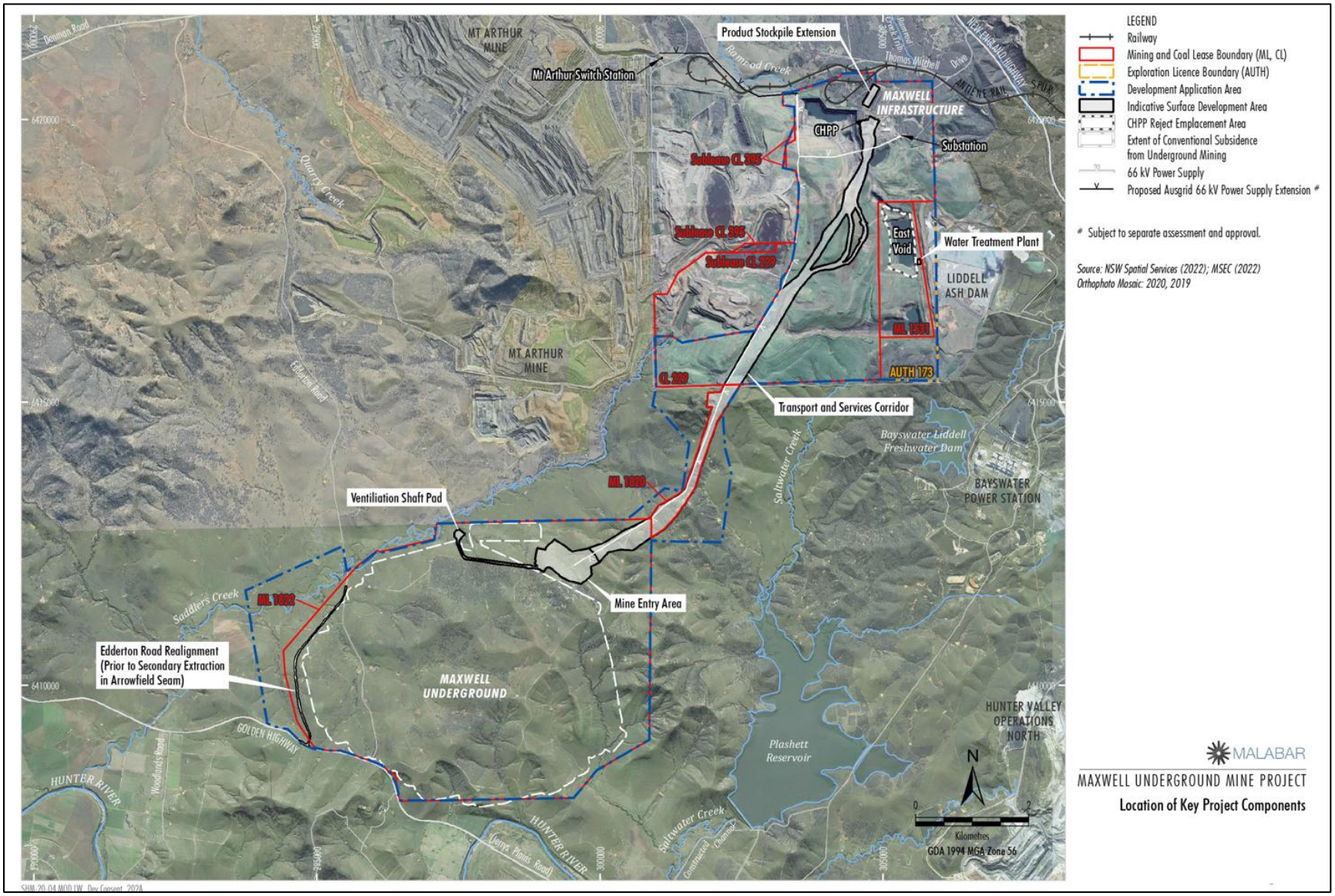

Figure 1. Maxwell Underground Mine

Figure 2. Maxwell Infrastructure biodiversity offset areas and monitoring sites

2 PLANNING

2.1 Regulatory Requirements

This BMP describes the management of the biodiversity management areas (defined in **Section 1.2**) to meet relevant statutory requirements within Development Consent SSD 9526. The various conditions that relate to biodiversity management and where they are addressed in this document are detailed in **Appendix 1**.

The Maxwell Underground Mine was approved under the *Environment Protection and Biodiversity Conservation* (EPBC) *Act 1999* on 10 March 2021 (EPBC 2018/8287). Condition 11 of the EPBC Approval requires Malabar to demonstrate compliance with Conditions B47, B48, B50, B51, B52, B53, B76, B77, B78, B79, B80, B81 and B82 of Part B and C1, C2, C3, C3 and C8 of Part C of Development Consent SSD 9526. This BMP addresses Conditions B50, B51, B52, B53, C1, C2, C3 and C8 of Development Consent SSD 9526. The following conditions are addressed separately to this BMP (i.e. do not form part of the scope of the BMP as noted in **Section 1.2**):

- Schedule 2, Conditions B47 to B48 of Development Consent SSD 9526 relate to Maxwell Underground biodiversity offset requirements and are addressed separately under the NSW Biodiversity Offset Scheme.
- Schedule 2, Conditions B76 to B82 of Development Consent SSD 9526 relate to rehabilitation requirements and are addressed as part of the Rehabilitation Management Plan.

A conservation and biodiversity bond has been provided to the then Department of Planning, Industry and Environment (now DPHI) for the continued management of the Drayton Wildlife Refuge (declared in 1987), the Northern Offset Area and the Southern Offset Area (established following approval of Modification 1 of PA 06_0202 in 2009). No further bond or covenants for these offset areas are required under Development Consent SSD 9526.

Both Project Approval 06_0202 and Development Consent SSD 9526 provide for the management and protection of 117 hectares (ha) of native vegetation in the Drayton Wildlife Refuge, revegetation of 88 ha of the Southern Offset Area with native vegetation and protection and management of existing 12 ha of native vegetation in the Northern Offset Area. At the end of the development (i.e. when mining operations cease), Maxwell will consider any additional covenants required to secure the offsets in the long term.

2.2 Maxwell EIS and Supporting Document Commitments

A Biodiversity Development Assessment Report (BDAR) containing a terrestrial ecology assessment was undertaken for the Maxwell Project Environmental Impact Statement (Maxwell EIS) (published in August 2019) and included an assessment of the potential impacts on terrestrial ecology, measures to mitigate impacts, and adaptive management.

A subsidence assessment was undertaken for the Maxwell EIS (published on 14 August 2019) and included subsidence predictions for proposed underground mining operations including the maximum predicted surface effects for mining.

A further subsidence assessment was undertaken for Maxwell MOD2 (MSEC 2022). Since MOD2 was approved, the indicative arrangement of the Whynot Seam panels has undergone some minor changes following further mine planning investigations. These changes were assessed and presented as part of the Whynot Seam Panels 2-5 Extraction Plan (MSEC 2024).

A further subsidence assessment was undertaken for the Woodlands Hill Longwalls 1-4 Extraction Plan (MSEC 2025) and revision of the Woodlands Hill Longwalls 1-4 Extraction Plan (MSEC 2026).

Commitments in the Maxwell EIS and supporting documents that relate to the biodiversity management areas, and where they are addressed in this document, are detailed in **Appendix 2**.

2.3 Preparation and Consultation

Consultation was previously undertaken during the preparation of the BMP. This included endorsement by the Planning Secretary of a suitably qualified and experienced person/s. At the time, Maxwell engaged Dr Colin Driscoll (Principal consultant at Hunter Eco Pty Ltd [Hunter Eco]) to assist with the preparation of the BMP. In addition, the BMP was also prepared in consultation with the Biodiversity and Conservation Division (now known as Conservation Programs, Heritage and Regulation Group [CPHR] of the NSW Department of Climate Change, Energy, the Energy and Water (DCCEEW)), Biodiversity Conservation Trust (BCT) and Muswellbrook Shire Council (MSC).

Schedule 2, Part C, Condition C8(a) of Development Consent SSD 9526, requires that Extraction Plans are prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary. Maxwell has engaged the specialists listed in **Table 1** to assist with the preparation of the Whynot Seam Panels 2-5 Extraction Plan, Woodlands Hill Longwalls 1-4 Extraction Plan and associated management plans. A copy of the endorsement by the Planning Secretary is included in **Appendix 3**.

In accordance with Schedule 2, Part B, B57(b) and Part C, Condition C8(g)(vi) of Development Consent SSD 9526, this BMP has been prepared in consultation with BCD. Outcomes of the consultation are presented in **Appendix 4**.

In accordance with Schedule 2, Part C, Condition C13 of Development Consent SSD 9526, Maxwell will pay all reasonable costs incurred by the Department to engage a suitably qualified, experienced and independent person/s to review the adequacy of any aspect of an Extraction Plan.

Table 1. Specialists engaged to prepare the Whynot Seam Panels 2-5 and Woodland Hill Longwalls 1-4 Extraction Plans.

Specialist	Role
James Barbato - Mine Subsidence Engineering Consultants Pty Ltd (MSEC)	Preparation and/or review of relevant subsidence components, including predictions of subsidence effects and subsidence impacts, Subsidence Monitoring Program, Built Features Management Plan and Land Management Plan
Greg Roads - WRM Water & Environment Pty Ltd	Preparation and/or review of surface water components of the Water Management Plan
Noel Merrick - HydroAlgorithmics Pty Ltd	Preparation and/or review of groundwater components of the Water Management Plan
Dr Colin Driscoll - Hunter ECO	Preparation and/or review of relevant flora and fauna components of the Biodiversity Management Plan
Geordie Oakes - AECOM Australia Pty Ltd	Preparation and/or review of Aboriginal cultural heritage components of the Heritage Management Plan

2.4 Baseline Data

2.4.1 Drayton Wildlife Refuge

An application was lodged in 1982 for the establishment of a Wildlife Refuge under section 68 of the *National Parks and Wildlife Act 1974* (NPW Act). A Plan of Management for the Wildlife Refuge was prepared with the National Parks and Wildlife Services.

The entire property owned by Drayton in 1987 was declared the Drayton Wildlife Refuge in March 1987 under the NPW Act (the 1987 Drayton Wildlife Refuge). The 1987 Drayton Wildlife Refuge encompassed

much of the area of PA 06_0202 and the area sub-leased to Mt Arthur Coal (MAC). The declaration divided the 1987 Drayton Wildlife Refuge into the “Mining Area”, “Grazing Area” and “Natural Area” according to the major land use objectives.

Only part of the “Natural Area” now comprises the current Drayton Wildlife Refuge that was included in the Drayton Offset Strategy and is now part of the Maxwell Infrastructure Biodiversity Offset Areas. The Drayton Wildlife Refuge is located north of the infrastructure area, outside the current Malabar coal lease and mining lease boundaries (refer to **Figure 2**), on land owned by Maxwell. The Drayton Wildlife Refuge comprises approximately 114 ha of native woodland which is fully fenced.

2.4.2 Northern Offset Area

The Northern Offset Area was established in 2009 following approval of Modification 1 of PA 06_0202. The Northern Offset was located in the “Natural Area” of the 1987 Drayton Wildlife Refuge. The Northern Offset Area is located south-east of the Drayton Wildlife Refuge in the north-eastern corner of Coal Lease (CL) 229, with part of the area outside CL 229 (refer to **Figure 2**). This offset is on land owned by Maxwell and is approximately 12 ha in area. The Northern Offset Area includes approximately 6.3 ha of Hunter Lowland Redgum Forest.

2.4.3 Southern Offset Area

The Southern Offset Area was established following approval of Modification 1 of PA 06_0202 in 2009. The Southern Offset Area is located in the Saddlers Creek catchment, south-west of the former Drayton mining areas, within CL 229 and on land owned by Malabar (refer to **Figure 2**). The Southern Offset Area is an 88 ha parcel of land that has been mined and revegetated to contain approximately 84 ha of native forest/woodland and 4 ha of rehabilitated woodland/pasture. The landform comprises north and south facing hillsides and a gully that drains towards part of the upper reaches of Saddlers Creek. The value of this land as an offset area can be attributed to the inclusion of the upper reaches of Saddlers Creek and its proximity to the dedicated Mt Arthur Coal conservation area along Saddlers Creek.

2.4.4 Threatened Flora Species

Eleven vegetation communities were mapped across the site during surveys undertaken for the Maxwell EIS. Several of these communities were present in both remnant vegetation form and derived native grassland form. One threatened flora species, Pine Donkey Orchid (*Diuris tricolor*), listed under the BC Act had been previously recorded on site however was not found within the approved disturbance areas during the ecological surveys for the Maxwell EIS. Two other flora species, representatives of Endangered Populations under the BC Act were recorded, these included *Cymbidium canaliculatum* and *Acacia pendula* (refer to **Figure 3**).

2.4.5 Threatened Fauna Species

The following four threatened fauna species were present in habitat located either within or adjoining the BDAR footprint during the ecological surveys for the Maxwell EIS:

- Pink-tailed Legless Lizard (*Aprasia parapulchella*) (listed as vulnerable under the BC Act and *Environment Protection and Biodiversity Conservation Act 1999* [EPBC Act]) (refer to **Figure 4** for locations);
- Striped Legless Lizard (*Delma impar*) (listed as vulnerable under the BC Act and EPBC Act) (refer to **Figure 4** for locations);
- Squirrel Glider (*Petaurus norfolcensis*) (listed as vulnerable under the BC Act) (refer to **Figure 5** for locations); and
- Southern Myotis (*Myotis macropus*) (listed as vulnerable under the BC Act) (refer to **Figure 6** for locations).

2.4.6 Whynot Seam Panels 2-5

A biodiversity technical report was prepared by Hunter Eco (2024) describing the current conditions and the potential impacts to flora and fauna resulting from coal extraction through bord and pillar mining of Panels 2 to 5 of the Whynot Seam.

Study Areas consisted of Study Area A, being the area bounded by a 600 metre (m) buffer extending from Whynot Seam Panels 2 to 5, and Study Area B, being the modelled boundary of a 26.5 degree angle of draw (including the 20 millimetre [mm] subsidence contour) nested within Study Area A. Biodiversity data for the report was sourced from studies conducted for the Maxwell EIS and subsequent modifications.

The Study Areas are located in the Central Hunter Foothills Mitchell Landscape, an over-cleared landscape 75 percent (%) cleared (Hunter Eco 2024). Study Area A 669.8 hectares (ha) consisting of derived native grassland (62%) and remnant woodland (38%) and Study Area B totals 214.2 ha consisting of derived native grassland (64%) and remnant woodland (36%). The Plant Community Types are listed in **Table 2** below.

The threatened Pine Donkey Orchid (*Diuris tricolor*) has been recorded in locations within Study Areas A and B during targeted transect surveys (Hunter Eco 2019). An expert report (Bell 2021) concluded that PCT 1691 derived grassland was the only potentially suitable habitat for the Pine Donkey Orchid. The recorded locations occurred within this habitat including equivalent habitat in small open grassland patches within PCT 1691 woodland. Targeted surveys by Future Ecology (2019) yielded records of three threatened fauna species from within Study Areas A and B including: a bat, Southern Myotis (*Myotis macropus*); Striped Legless Lizard (*Delma impar*) and Squirrel Glider (*Petaurus norfolkensis*).

Table *2*. Plant Community Types across the Whynot Seam Panels 2 to 5 study areas.

PCT	PCT Name	TEC
116	Weeping Myall – Coobah – Scrub Wilga shrubland of the Hunter Valley	Listed BC Act, E: Hunter Valley Weeping Myall Woodland in the Sydney Basin Bioregion (Equivalent); Listed EPBC Act, lack of ground & understorey species indicate not a TEC.
201	Fuzzy Box woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion	Not a TEC.
1606	White Box -Narrow-leaved Ironbark – Blakely's Red Gum shrubby open forest of the central and upper Hunter	Listed BC Act, E: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of; Listed EPBC Act, CE: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of;
1606	White Box -Narrow-leaved Ironbark – Blakely's Red Gum shrubby open forest of the central and upper Hunter – DNG	Listed BC Act, E: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of; Listed EPBC Act, CE: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of;
1606	White Box -Narrow-leaved Ironbark – Blakely's Red Gum shrubby open forest of the central and upper Hunter – DNG	Listed BC Act, E: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of; Listed EPBC Act, CE: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of;
1606	White Box -Narrow-leaved Ironbark – Blakely's Red Gum shrubby open forest of the central and upper Hunter	Listed BC Act,E: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of; Listed EPBC Act,CE: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of;
1655	Grey Box – Slaty Box shrub – grass woodland on sandstone slopes of the Upper Hunter Valley and Sydney Basin	Listed BC Act, V: Hunter Valley Footslopes Slaty Gum Woodland in the Sydney Basin Bioregion (Part) ; Listed EPBC Act,CE: Central Hunter Valley Eucalypt Forest and Woodland (Part)

PCT	PCT Name	TEC
1655	Grey Box – Slaty Box shrub – grass woodland on sandstone slopes of the Upper Hunter Valley and Sydney Basin – DNG	Not a TEC.
1691	Narrow-leaved Ironbark – Grey Box grassy woodland of the central and upper Hunter	Listed BC Act,E: Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions (Part) ; Listed EPBC Act,CE: Central Hunter Valley Eucalypt Forest and Woodland (Part)
1691	Narrow-leaved Ironbark – Grey Box grassy woodland of the central and upper Hunter – DNG	Not a TEC.
1692	Bull Oak grassy woodland of the Central Hunter Valley	Not a TEC.
1693	Yellow Box – Rough-barked Apple gassy woodland of the upper Hunter and Liverpool Plains	Listed BC Act,E: White Box Yellow Box Blakely's Red Gum Woodland (Part) wholly subset of; Listed EPBC Act,CE: White Box Yellow Box Blakely's Red Gum Woodland (Part) wholly subset of;
1731	Swamp Oak – Weeping Grass grassy riparian forest of the Hunter Valley	Elevation > 20 m & not known from Muswellbrook Local Government Area indicates Not a TEC.

2.4.7 Woodlands Hill Longwalls 1-4

A biodiversity technical report was prepared by Hunter Eco (2025) describing the current conditions and the potential impacts to flora and fauna resulting from coal extraction through longwall mining of the Woodlands Hill Longwalls 1-4.

The Study Areas consist of Study Area A, being the area bounded by a 600 m buffer extending from Woodlands Hill Longwalls 1-4, and Study Area B, being the modelled boundary of a 26.5 degree angle of draw (including the 20 mm subsidence contour) nested within Study Area A. Biodiversity data for this report was sourced from studies conducted for the original EIS and subsequent modifications.

The Study Areas are located in the Central Hunter Foothills Mitchell Landscape, an over-cleared landscape 75 % cleared. Study Area A covers 604 ha and incorporates 528.6 ha within the Maxwell Mine area and 75.5 ha within Mount Arthur Coal (MAC) land on the northern edge. The MAC land consists of 69.2 ha being part of the Saddlers Creek Conservation Area, and 6.3 ha of unmapped land. Together, Study Area A consists of derived native grassland (71%), remnant woodland (35%), 3.7 ha of dams and 7 ha of approved Maxwell development being a vent shaft and access. Study Area B totals 185 ha consisting of derived native grassland (73%) and remnant woodland (26%) along with a small dam (0.37 ha) and approximately 1 ha of approved Maxwell development. The Plant Community Types are listed in **Table 3** below.

An amended letter report (Hunter Eco 2026) was prepared following changes to the Woodlands Hill Longwalls 1-4 Extraction Plan (as discussed in **Section 1.3**). The changes showed an increase in Study Area A by 88.7 ha and an increase in Study Area B by 65.3 ha, however the total area of secondary extraction for the longwalls does not change based on the proposed amendments.

Several threatened Pine Donkey Orchids (*Diuris tricolor*) have been recorded in locations that lie within Study Area A and one individual plant was identified in Study Area B during targeted transect surveys (Hunter Eco 2019). An expert report (Bell 2021) concluded that PCT 1691 derived grassland was the only potentially suitable habitat for the Pine Donkey Orchid. The recorded locations occurred within this habitat including equivalent habitat in small open grassland patches within PCT 1691 woodland.

The expanded LW4 now includes the majority of the recorded local population of the Pine Donkey Orchid. However, they are mostly located on the high edge of the LW4 subsidence and would be unlikely to be affected (Hunter Eco 2026).

The amended Woodlands Hill Longwalls 1-4 Extraction Plan results in additional habitat both in woodland and paddock trees within Study Area B for the Squirrel Glider. However, the increased level of subsidence at the completion of LW4 would not impact the trees that these gliders rely on for food, movement and denning (Hunter Eco 2026).

The amended Woodlands Hill Longwalls 1-4 Extraction Plan results in an extension to the previously mapped derived grassland and woodland communities within Study Area B for the Hunter Valley Delma. However there would be a negligible impact of subsidence on this species (Hunter Eco 2026).

No additional farm dams are captured in the expanded Study Areas and therefore no impact on the Southern Myotis (Hunter Eco 2026).

Hunter Eco (2019) also recorded individuals of the *Cymbidium canaliculatum* population in the Hunter Catchment in the wider Study Area with no occurrences within Study Areas A or B.

Table 3. Plant Community Types across the Woodlands Hill Longwalls 1 to 4 study areas.

PCT	PCT Name	TEC
116	Weeping Myall – Coobah – Scrub Wilga shrubland of the Hunter Valley	Listed BC Act, E: Hunter Valley Weeping Myall Woodland in the Sydney Basin Bioregion (Equivalent); Listed EPBC Act, lack of ground & understorey species indicate not a TEC.
201	Fuzzy Box woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion	Not a TEC.
201	Fuzzy Box woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion – DNG	Not a TEC
1606	White Box -Narrow-leaved Ironbark – Blakely's Red Gum shrubby open forest of the central and upper Hunter	Listed BC Act, E: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of; Listed EPBC Act, CE: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of;
1606	White Box -Narrow-leaved Ironbark – Blakely's Red Gum shrubby open forest of the central and upper Hunter – DNG	Listed BC Act, E: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of; Listed EPBC Act, CE: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of;
1606	White Box -Narrow-leaved Ironbark – Blakely's Red Gum shrubby open forest of the central and upper Hunter – DNG	Listed BC Act, E: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of; Listed EPBC Act, CE: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of;
1606	White Box -Narrow-leaved Ironbark – Blakely's Red Gum shrubby open forest of the central and upper Hunter	Listed BC Act,E: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of; Listed EPBC Act,CE: White Box Yellow Box Blakely's Red Gum Woodland (Part) partially subset of;

PCT	PCT Name	TEC
1655	Grey Box – Slaty Box shrub – grass woodland on sandstone slopes of the Upper Hunter Valley and Sydney Basin	Listed BC Act, V: Hunter Valley Footslopes Slaty Gum Woodland in the Sydney Basin Bioregion (Part) ; Listed EPBC Act,CE: Central Hunter Valley Eucalypt Forest and Woodland (Part)
1655	Grey Box – Slaty Box shrub – grass woodland on sandstone slopes of the Upper Hunter Valley and Sydney Basin – DNG	Not a TEC.
1691	Narrow-leaved Ironbark – Grey Box grassy woodland of the central and upper Hunter	Listed BC Act,E: Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions (Part) ; Listed EPBC Act,CE: Central Hunter Valley Eucalypt Forest and Woodland (Part)
1691	Narrow-leaved Ironbark – Grey Box grassy woodland of the central and upper Hunter – DNG	Not a TEC.
1692	Bull Oak grassy woodland of the Central Hunter Valley	Not a TEC.
1693	Yellow Box – Rough-barked Apple gassy woodland of the upper Hunter and Liverpool Plains	Listed BC Act,E: White Box Yellow Box Blakely's Red Gum Woodland (Part) wholly subset of; Listed EPBC Act,CE: White Box Yellow Box Blakely's Red Gum Woodland (Part) wholly subset of;
1731	Swamp Oak – Weeping Grass grassy riparian forest of the Hunter Valley	Elevation > 20 m & not known from Muswellbrook Local Government Area indicates Not a TEC.
-	Saddlers Creek cleared creek bed	Not a TEC
-	Unmapped grazing land	Not a TEC
-	Dam	Not a TEC

2.5 Biodiversity Offset Credits

Schedule 2, Condition B47 of Development Consent SSD 9526 requires that prior to commencing construction, or other timeframe agreed by the Planning Secretary, Maxwell will retire the biodiversity credits specified in Condition B47 of Development Consent SSD 9526. These credit requirements are reproduced, albeit with some amendments to address changes approved by the Planning Secretary (further details below), in **Table 4**. The retirement of credits will be carried out in consultation with CPHR and in accordance with the Biodiversity Offsets Scheme of the BC Act.

Schedule 2, Condition B48 of Development Consent SSD 9526 requires that prior to any works associated with the realignment of Edderton Road, or other timeframe agreed by the Planning Secretary, Maxwell will retire biodiversity credits specified in Condition B48 of Development Consent SSD 9526. These credit requirements are reproduced, albeit with some amendments to address changes approved by the Planning Secretary (further details below), in **Table 5**. The retirement of credits will be carried out in consultation with CPHR and in accordance with the Biodiversity Offsets Scheme of the BC Act.

Schedule 2, Condition 50A of Development Consent SSD 9526 requires that within 12 months of the determination of Maxwell MOD1, or other timeframe agreed by the Planning Secretary, Maxwell must retire the biodiversity credits specified in Condition B50 of Development Consent SSD 9526. These credit requirements are reproduced, albeit with some amendments to address changes approved by the Planning Secretary (further details below), in **Table 6**. Schedule 2, Condition 50B of Development

Consent SSD 9526 requires that prior to commencement of disturbance of native vegetation associate with Maxwell MOD2, Maxwell must retire the biodiversity credits specified in **Table 7**.

The credits in **Table 4** through to **Table 7** are separate to the existing Maxwell Infrastructure Offset Areas (i.e. Northern Offset Area, Southern Offset Area and Drayton Wildlife Refuge) that are discussed in this plan and were established under Wildlife Refuge Proclamation and Project Approval 06_0202.

Maxwell held a meeting with the BCT on 27 July 2021 to discuss the application. At the meeting, BCT advised that initial review of the draft application would take two weeks and the full assessment of the application would take approximately six months**.** On 13 August 2021, Maxwell requested an extension to the timeframe for retiring the biodiversity credits to 30 June 2022 to align with the timing proposed by BCT. This extension was approved by the Planning Secretary on 2 September 2021.

A further extension was granted until 28 February 2023 following consultation with the Credits Supply Taskforce. This extension was granted to allow the Credit Supply Taskforce to continue to process the BSA in its current form in parallel to seeking legal advice.

In December 2022, Maxwell again applied to have the date extended. DPE consulted with the Credits Supply Taskforce regarding the remaining time required to process the application and a further extension was granted until 30 August 2023.

The Credits Supply Taskforce provided further comments on the BSA in June 2023. To address the residual comments, a further extension was grated until 14 December 2023. Copies of the approval letters are provided in **Appendix 5**.

In December 2023, Maxwell established a land-based offset known as the Maxwell Stewardship Site (ID number BS0129) under Part 5 Division 2 of the BC Act. A Biodiversity Stewardship Agreement was finalised on 23 November 2023. A total of 3066 ecosystem and species credits were retired from the Maxwell Stewardship Site on 12 December 2023 for Development Consent SSD 9526. An extension for the remaining credits required for Development Consent SSD 9526 was granted until 29 February 2024 so that Maxwell could purchase 411 credits through the Biodiversity Conservation Fund and 4 credits through the Government's reverse auction process. These remaining credits satisfied the requirements of Conditions B47, B48, B50A and B50B of Development Consent SSD 9526.

2.6 Biodiversity Offset Credit Reduction

On 22 June 2021, in accordance with Condition B49 of Development Consent SSD 9526, Maxwell requested in a letter addressed to the Planning Secretary that the biodiversity credit requirements for *Diuris tricolor*, *Ozothamnus tesselatus*, *Prasophyllum petilum*, *Pterostylis chaetophora* and *Thesium australe* be reduced to zero following the preparation of an expert report and associated survey reports outlining the findings by suitably qualified and experienced persons from Eastcoast Flora Survey (Dr Stephen Bell) and Hunter Eco (Dr Colin Driscoll). These reports were prepared in accordance with the NSW Biodiversity Assessment Method (BAM) also provided to CPHR and MSC for consultation in accordance with Condition B49(b).

On the 20 September 2021, DPHI advised that they had reviewed the expert report and associated survey reports and the Planning Secretary approved the following changes to the biodiversity credit requirements for the Maxwell UG Mine:

- The biodiversity credit requirements in Conditions B47 and B48 of Schedule 2 for *Pterostylis chaetophora*, *Ozothamnus tesselatus* and *Thesium australe* can be reduced to zero.
- The 0.3 ha of habitat considered suitable for *Diuris tricolor* and *Prasophyllum petilum* within the Stage One development footprint has not been surveyed in full compliance with *Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method* (DPIE, 2020). Therefore, the biodiversity credit requirements (for Stage One) required for *Diuris tricolor* are changed from 1,474 credits to 5 credits, and for *Prasophyllum petilum* are changed from 1,114 credits to 6 credits.

- The biodiversity credit requirements (for Stage Two) required for *Diuris tricolor* and *Prasophyllum petilum* can be changed to zero.

A copy of the approval letter is provided in **Appendix 5.** The above changes have been incorporated in **Table 4** and **Table 5** below.

Table *4*. Biodiversity credit requirements for Stage One

Credit Type	Credits Required
Ecosystem Credits	
PCT1607 Blakely's Red Gum – Narrow-leaved Ironbark – Rough-barked Apple Shrubby Woodland of the Upper Hunter (Woodland)	9
PCT1607 Blakely's Red Gum – Narrow-leaved Ironbark – Rough-barked Apple Shrubby Woodland of the Upper Hunter (Derived Native Grassland)	59
PCT1606 White Box- Narrow-leaved Ironbark – Blakely's Red Gum Shrubby Open Forest of the Central and Upper Hunter (Woodland)[a,c]	216
PCT1606 White Box- Narrow-leaved Ironbark – Blakely's Red Gum Shrubby Open Forest of the Central and Upper Hunter (Derived Native Grassland)[a,c]	971
PCT1655 Grey Box – Slaty Box Shrub – Grass Woodland on Sandstone Slopes of the Upper Hunter Valley and Sydney Basin (Woodland)[b,c]	21
PCT1692 Bull Oak Grassy Woodland of the Central Hunter Valley (Woodland)[c]	45
PCT201 Fuzzy Box Woodland on Alluvial Brown Loam Soils mainly in the NSW South Western Slopes Bioregion (Woodland)[c]	15
PCT201 Fuzzy Box Woodland on Alluvial Brown Loam Soils mainly in the NSW South Western Slopes Bioregion (Derived Native Grassland)	14
PCT1691 Narrow-leaved Ironbark – Grey Box Grassy Woodland of the Central and Upper Hunter (Woodland)[b,c]	184
PCT1691 Narrow-leaved Ironbark – Grey Box Grassy Woodland of the Central and Upper Hunter (Woodland)	6
PCT1604 Narrow-leaved Ironbark – Grey Box – Spotted Gum Shrub – Grass Woodland of the Central and Upper Hunter[c]	44
PCT1604 Woodland Rehabilitation	214
Species Credits	
Pine Donkey Orchid *(Diuris tricolor)*[d]	5*
Tarengo Leek Orchid *(Prasophyllum petilum)*[c,d]	6*
Rusty Greenhood *(Pterostylis chaetophora)*[d]	0*
Tesselate Everlasting *(Ozothamnus tesselatus)*[c,d]	0*
Austral Toadflax *(Thesium australe)* [c,d]	0*
Pink-tailed Legless Lizard[c]	382
Striped Legless Lizard[c]	1,126
Squirrel Glider	524
Southern Myotis	9

* Credits have been amended consistent with DPIE approval (Appendix 5).

Notes:

[a] Commensurate with White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland under the EPBC Act.
[b] Commensurate with Central Hunter Valley Eucalypt Forest and Woodland under the EPBC Act.
[c] Under clause 6.6A of the Biodiversity Conservation Regulation 2017, variation rules do not apply to the identified species or community and the required credits must be retired on a like-for-like basis.
[d] Total credit requirements have been calculated based on assumed presence of this species and may be reduced under condition B49.

Table *5*. Biodiversity credit requirements for Stage Two

Credit Type	Credits Required
Ecosystem Credits	
PCT1606 White Box- Narrow-leaved Ironbark – Blakely's Red Gum Shrubby Open Forest of the Central and Upper Hunter (Woodland)[a,c]	2
PCT1606 White Box- Narrow-leaved Ironbark – Blakely's Red Gum Shrubby Open Forest of the Central and Upper Hunter (Derived Native Grassland)[a,c]	45
PCT1655 Grey Box – Slaty Box Shrub – Grass Woodland on Sandstone Slopes of the Upper Hunter Valley and Sydney Basin (Woodland)[b,c]	2
PCT1655 Grey Box – Slaty Box Shrub – Grass Woodland on Sandstone Slopes of the Upper Hunter Valley and Sydney Basin (Derived Native Grassland)	24
PCT1731 Swamp Oak – Weeping Grass Grassy Riparian Forest of the Hunter Valley	4
PCT201 Fuzzy Box Woodland on Alluvial Brown Loam Soils mainly in the NSW South Western Slopes Bioregion (Derived Native Grassland)	26
PCT1691 Narrow-leaved Ironbark – Grey Box Grassy Woodland of the Central and Upper Hunter (Woodland)[b,c]	51
Species Credits	
Pine Donkey Orchid (*Diuris tricolor*)[d]	0*
Tarengo Leek Orchid (*Prasophyllum petilum*)[c,d]	0*
Rusty Greenhood (*Pterostylis chaetophora*)[d]	0
Tesselate Everlasting (*Ozothamnus tesselatus*)[c,d]	0
Pink-tailed Legless Lizard[c]	41
Striped Legless Lizard[c]	99
Squirrel Glider	33
Southern Myotis	36

* Credits have been amended consistent with DPIE approval (Appendix 5).

Notes:
[a] Commensurate with White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act.
[b] Commensurate with Central Hunter Valley Eucalypt Forest and Woodland CEEC under the EPBC Act.
[c] Under clause 6.6A of the Biodiversity Conservation Regulation 2017, variation rules do not apply to the identified species or community and the required credits must be retired on a like-for-like basis.
[d] Total credit requirements have been calculated based on assumed presence of this species and may be reduced under condition B49.

Table 6. Biodiversity credit requirements for Maxwell MOD1

Credit Type	Credits Required
Ecosystem Credits	
PCT1606 White Box- Narrow-leaved Ironbark – Blakely's Red Gum Shrubby Open Forest of the Central and Upper Hunter (Woodland)[a,c]	75
PCT1692 Bull Oak Grassy Woodland of the Central Hunter Valley (Woodland)[c]	13
Species Credits	
Squirrel Glider	17

Notes:
[a] Commensurate with White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act.
[b] Under clause 6.6A of the Biodiversity Conservation Regulation 2017, variation rules do not apply to the identified species or community and the required credits must be retired on a like-for-like basis.

Table 7. Biodiversity credit requirements for Maxwell MOD2

Credit Type	Credits Required
Ecosystem Credits	
PCT1606 White Box- Narrow-leaved Ironbark – Blakely's Red Gum Shrubby Open Forest of the Central and Upper Hunter (Woodland)	92
PCT1655 Grey Box – Slaty Box Shrub – Grass Woodland on Sandstone Slopes of the Upper Hunter Valley and Sydney Basin	4
PCT1692 Bull Oak Grassy Woodland of the Central Hunter Valley	15
PCT 1693 Yellow Box – Rough-barked Apple grassy woodland of the Upper Hunter and Liverpool Plains	45
PCT201 Fuzzy Box Woodland on Alluvial Brown Loam Soils mainly in the NSW South Western Slopes Bioregion	27
PCT1691 Narrow-leaved Ironbark – Grey Box Grassy Woodland of the Central and Upper Hunter	64
Species Credits	
Leafless Tongue Orchid *(Cryptostylis hunteriana)*	11
Pine Donkey Orchid *(Diuris tricolor)*	17
Tarengo Leek Orchid *(Prasophyllum petilum)*	21
Austral Toadflax *(Thesium australe)*	8
Squirrel Glider *(Petaurus norfolcensis)*	75
Southern Myotis *(Myotis Macropus)*	9

2.6.1 Legless Lizard *(Delma vescolineata)*

In accordance with Schedule 2, Condition B50(C) of Development Consent SSD 9526, if the Legless Lizard (*Delma vescolineata)*, is listed as a threatened species under the BC Act during the life of this consent, or otherwise agreed by the Planning Secretary, the Applicant must retire the applicable biodiversity credits (consistent with the applicable Biodiversity Risk Weighting as per the relevant row in **Table 8**) within 2 years of the species being listed as a threatened species under the BC Act.

During October 2024, the Threatened Species Scientific Committee, established under the BC Act made a final determination to list the Hunter Valley Legless Lizard (*Delma vescolineata)* as an endangered species.

The retirement of credits will be carried out in consultation with CPHR and in accordance with the Biodiversity Offsets Scheme of the BC Act, including the application of Ancillary Rules: Biodiversity conservation actions that may be relevant to *Delma vescolineata* published under clause 6.5 of the *Biodiversity Conservation Regulation 2017*.

Table 8. Biodiversity credit requirement alternatives – Legless Lizard *(Delma vescolineata***)**

Biodiversity Risk Rating	EIS	MOD1	MOD2	Credits Required^
	Credits Required			
1.5	1,226	54	156	1,436
2	1,635	72	208	1,915
3	2,452	108	312	2,872

Notes:

^ *Cumulative total for the Development, incorporating Maxwell MOD 1 and Maxwell MOD 2.*

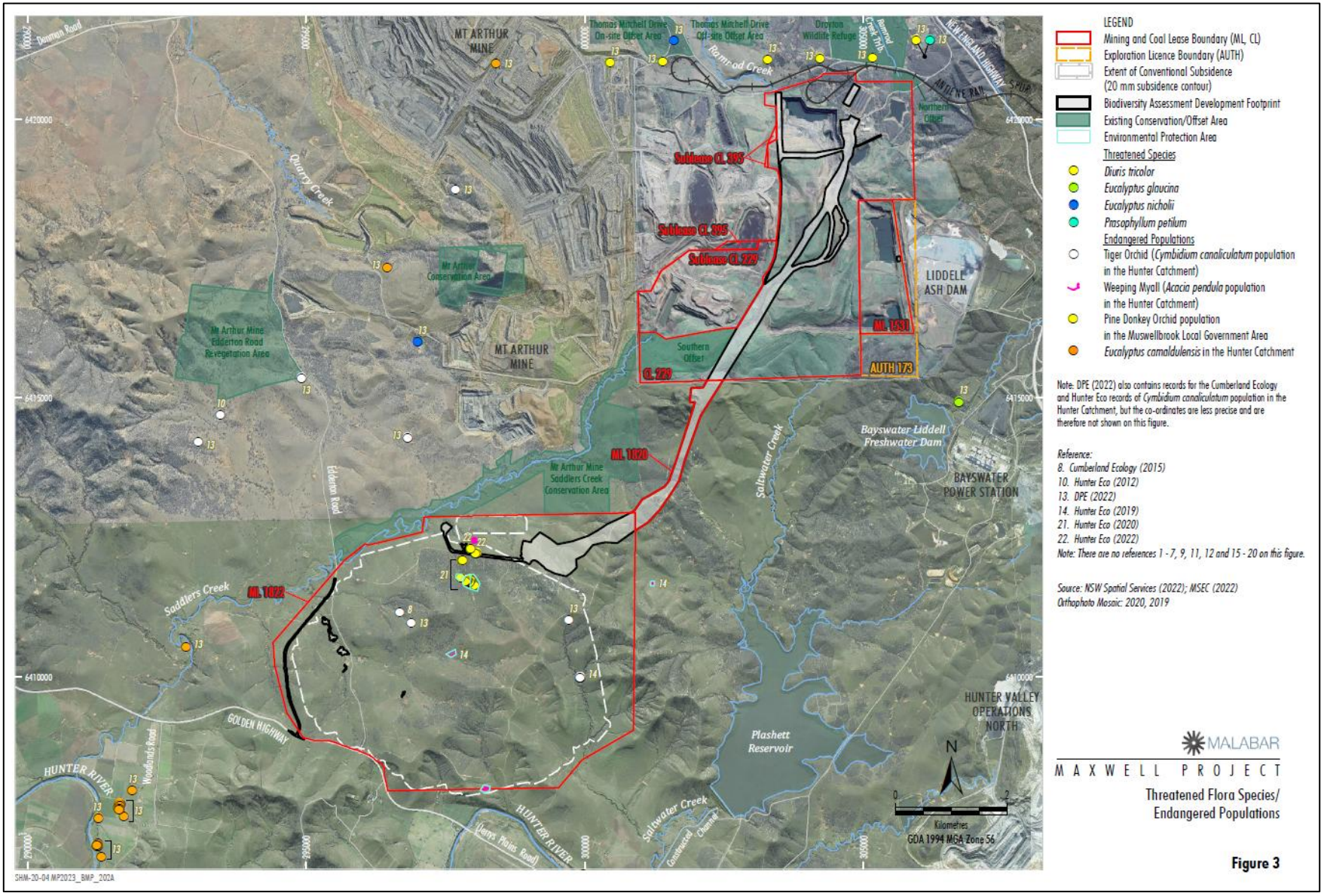

Figure 3. Threatened Flora Species/Endangered Population

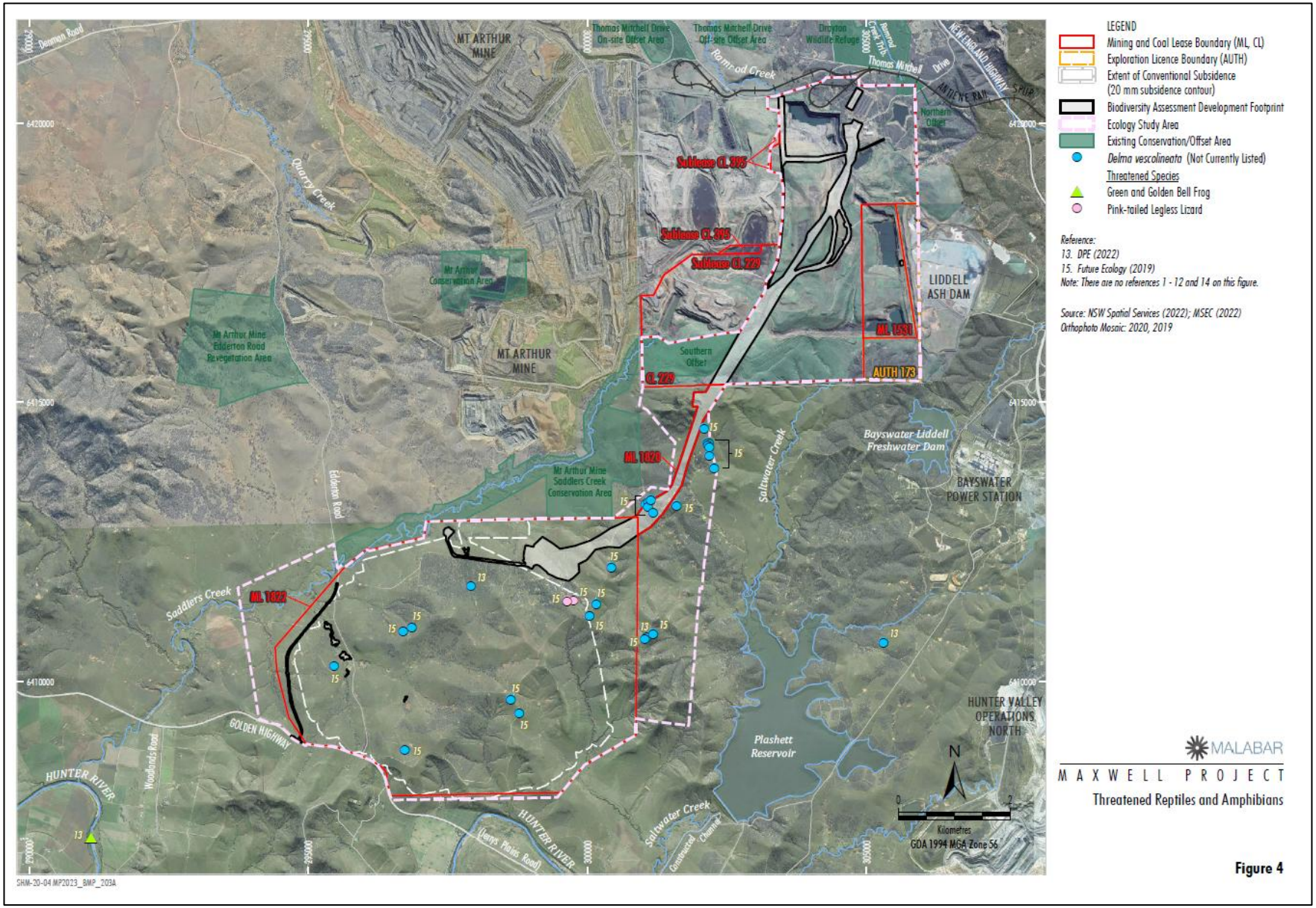

Figure 4. Threatened Reptiles and Amphibians

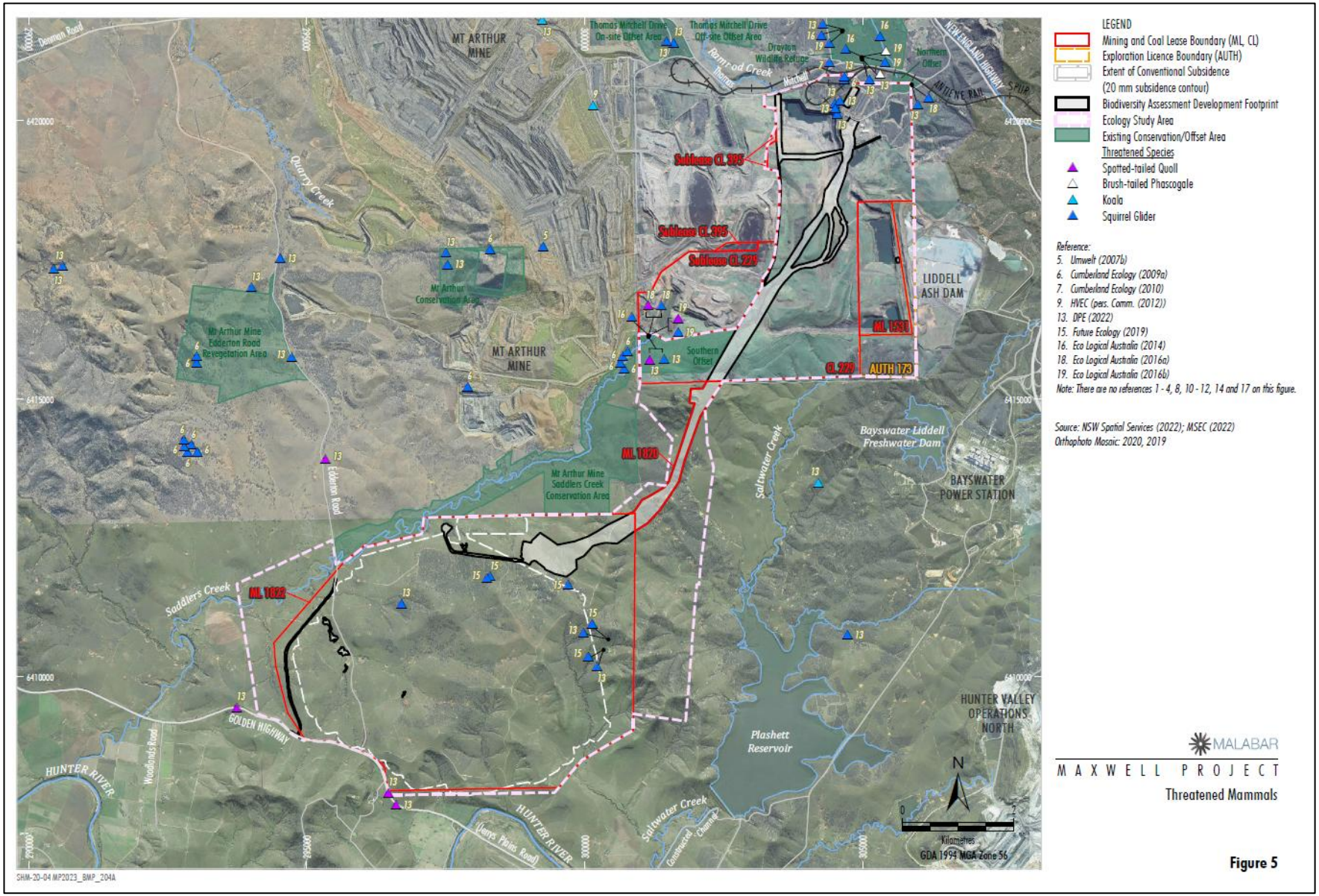

Figure 5. Threatened Mammals

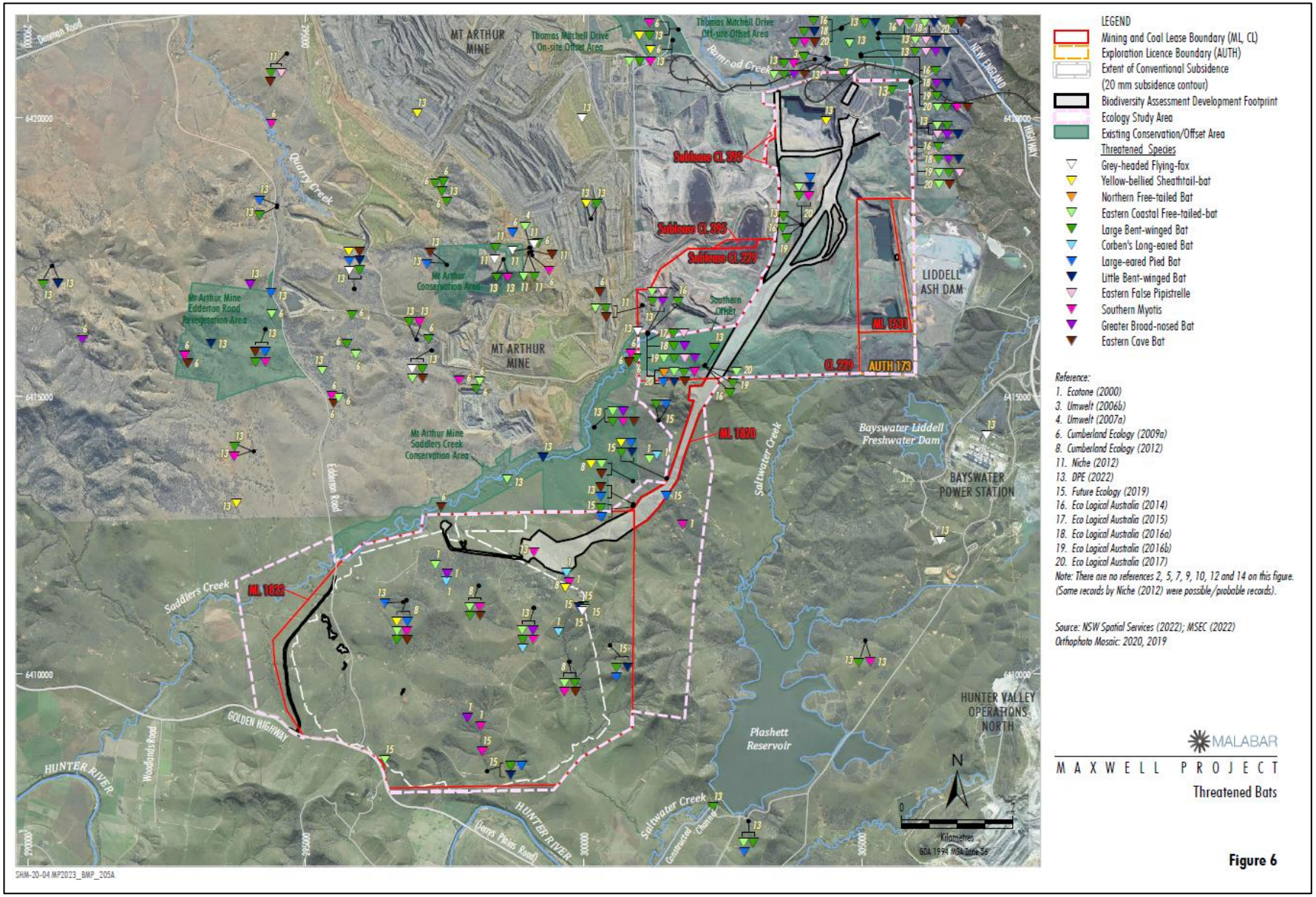

Figure 6. Threatened Bats

3 IMPLEMENTATION

3.1 Objectives

The overall management objective for the biodiversity management areas (shown in **Figure 2**) is to enhance regional biodiversity value while providing local habitat and connectivity with remnant native vegetation.

3.1.1 Drayton Wildlife Refuge

In accordance with Schedule 2, Condition B45 of Development Consent SSD 9526, Maxwell will protect and maintain the Drayton Wildlife Refuge. The following actions are currently undertaken in the Drayton Wildlife Refuge (114 ha) and will be continued:

- Excluding grazing by stock whilst allowing access by native fauna.
- Weed control to to remove these pressures from regenerating native species.
- Maintenance of native vegetation in the north and north-east to provide corridors for fauna movement and improve the effectiveness of the refuge as a conservation area.
- Encouraging the re-establishment of natural vegetation succession.
- Making selected areas of the refuge available, by arrangement with Maxwell, for use by groups for ecological research.

3.1.2 Northern Offset Area

In accordance with Schedule 2, Condition B45 of Development Consent SSD 9526, Maxwell will protect, maintain and enhance the Northern Offset Area. The approach for management of the Northern Offset Area is not to recreate ecological communities, but rather to enhance and improve the condition of the vegetation that already exists by utilising assisted natural regeneration. This involves the protection of existing native vegetation and encouraging natural regeneration, rather than revegetating large areas.

Natural regeneration of seedlings from existing vegetation is encouraged by removing threats to their survival such as weeds and animals, both domestic and feral. This technique is appropriate in this area as the site contains significant native vegetation that can act as a seed source. Weed and feral animal control will be undertaken within the offset area, to remove these pressures from regenerating native species. In more degraded areas that are devoid of canopy cover where natural recruitment of canopy species is unlikely to occur, selective replanting of native species may be conducted to help the native canopy species establish.

3.1.3 Southern Offset Area

In accordance with Schedule 2, Condition B46 of Development Consent SSD 9526, Maxwell will establish, maintain and protect the Southern Offset Area in the long-term so that the targeted vegetation endangered ecological communities will be recognisable as those vegetation communities detailed below and in Development Consent SSD 9526.

Revegetating the Southern Offset Area will add to existing habitat along Saddlers Creek and improve its value as a wildlife corridor. Whilst the majority of the land currently consists of large areas of grassland that are dominated by exotic plant species, the Southern Offset Area is currently being replanted. The landscape has sufficient soil and grass cover to permit successful replanting, and with an appropriate maintenance regime, it will be possible to regenerate high quality examples of wooded ecological communities in this area.

In accordance with Schedule 2, Condition B46 of Development Consent SSD 9526 the following vegetation communities (as shown in **Figure 7**) will be established and maintained in the Southern Offset Area:

- 26 ha of Narrow-leaved Ironbark Woodland;
- 19 ha of Spotted Gum-Grey Box Open Forest Woodland;

- 15 ha of Forest Red Gum Open Forest and Woodland (Hunter Lowland Redgum Forest Endangered Ecological Community (EEC));
- 24 ha of Yellow Box and Grey Gum Woodland (*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 Ecological Community (CEEC)*); and
- 4 ha of rehabilitated woodland/pasture.

The Hunter Lowland Redgum Forest EEC and Yellow Box and Grey Gum Woodland CEEC must be established to a level that meets the listing criteria for the relevant EEC or CEEC as defined under the BC Act.

In accordance with Schedule 2, Condition B76 of Development Consent SSD 9526 the rehabilitation objectives of the Southern Offset Area are to:

- Establish local plant community types, with a particular focus on the CEECs listed in Schedule 2, Condition B50 of Development Consent SSD 9526 and copied below:
    - 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 CEEC.
    - Central Hunter Grey Box-Iron Bark Woodland in the NSW North Coast and Sydney Basin Bioregions EEC.
- Establish habitat and/or foraging resources for other significant and/or threatened flora and fauna species, including:
    - Pink-tailed Legless Lizard;
    - Striped Legless Lizard;
    - Swift Parrot; and
    - Regent Honeyeater.
- Facilitate local vegetation connectivity and wildlife corridors, particularly with respect to the adjacent MAC.

Given that one of the objectives of the Southern Offset Area is to establish woodland ecosystems, the biodiversity management objectives for the Southern Offset Area are aligned with the biodiversity management objectives of woodland rehabilitation areas, in accordance with Schedule 2, Condition B76 of Development Consent SSD 9526. Rehabilitation of areas disturbed by mining activities will be undertaken in accordance with the *Rehabilitation Management Plan* referred to in Schedule 2, Condition B82 of Development Consent SSD 9526. The performance criteria for the Southern Offset Area and woodland rehabilitation areas, as detailed in the *Rehabilitation Management Plan,* will also be aligned and management activities will occur concurrently in accordance with Schedule 2, Condition B51(d) of Development Consent SSD 9526.

The establishment of the Southern Offset Area is further described in **Section 2.4.3.** Actions to protect the Southern Offset Area from threats, including unauthorised ground disturbance, spontaneous combustion, bushfires, weeds, feral animals and unauthorised access are discussed in **Section 3.3**. Maintenance is discussed in **Section 3.4**.

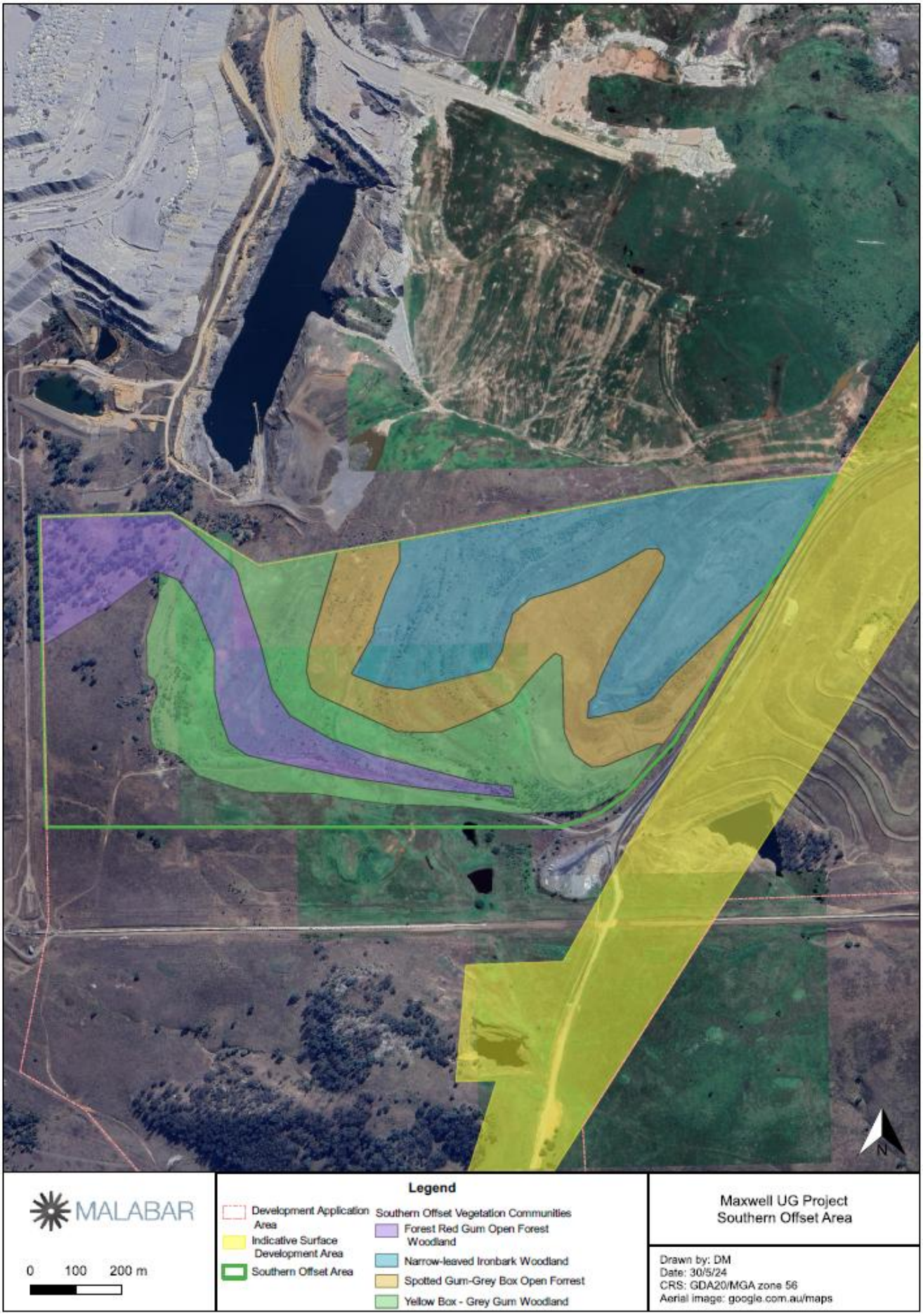

Figure 7. Southern Offset Area vegetation communities

3.1.4 Performance Measures

This BMP has been developed to manage the potential risks to biodiversity from secondary workings in the Whynot Seam Panels 2 to 5 and Woodland Hill Longwalls 1-4. In accordance with Schedule 2, Part C, Condition C1 of Development Consent SSD 9526, Maxwell must ensure that the development does not cause exceedances of the performance measures listed in **Table 9**.

Table 9. Performance measures for biodiversity

Feature	Performance Measure
Threatened species, threatened populations, or endangered ecological communities	• No greater subsidence impacts or environmental consequences than predicted in the document/s listed in condition A2(c). • Negligible impacts on threatened species, populations or communities due to remediation of subsidence cracking

3.1.5 Whynot Seam Panels 2 to 5 Subsidence Predictions

The subsidence predictions have been determined by MSEC using the Incremental Profile Method. This method has been calibrated using the available monitoring data from the NSW coalfields. The maximum predicted total subsidence effects due to mining of panels 2 to 5 in the Whynot Seam are (MSEC 2024):

- 250 mm vertical subsidence;
- 5 mm/m tilt (i.e. 0.5 % or 1 in 200);
- 0.3 kilometres (km)-1 hogging and 0.5 km-1 sagging curvature (i.e. minimum radius of curvature of 2 km); and
- strains typically between 3 mm/m and 5 mm/m.

The maximum predicted subsidence based on the Extraction Plan Layout are less than the maximum predicted values based on the EIS Layout. The surface area located within the limit of predicted vertical subsidence (i.e. 20 mm subsidence contour) for panels 2 to 5 is 161.3 hectares and it is less than the surface area based on based on the EIS Layout.

Vertical subsidence is predicted to range from 20 mm to 250 mm at the completion of Whynot Seam Panel 4 (MSEC 2024). The depths of cover above Whynot Seam Panels 2 to 5 in the Whynot Seam vary between 50 m and 130 m. The subsidence is greatest where the depth of cover is highest and is less where the depth of cover is shallowest. The maximum predicted total vertical subsidence (250 mm) occurs where the hill crosses the middle of the mining area and the depths of cover are greatest. The areas of maximum subsidence (≥250 mm) amount to approximately 0.1924 ha in two disconnected areas, consisting entirely of PCT 1606.

The biodiversity technical report prepared by Hunter Eco for mining of Panels 2 to 5 of the Whynot Seam found that Saddlers Creek and its lower tributaries (which support groundwater dependent vegetation) would not be impacted by subsidence resulting from mining Whynot Seam Panels 2 to 5. The report also found that subsidence would have no impact on the threatened Pine Donkey Orchid, with all but one record lying outside of Study Area B.

Impact of subsidence on surface vegetation, in particular woodland, would be negligible due to the low subsidence levels and with low surface cracking predicted. The negligible impact on habitat means there would be no impact on the resident threatened fauna (Hunter Eco 2024).

Consequently, no additional flora and fauna impact mitigation measures were proposed for Whynot Panels 2 to 5 and it was recommended that flora and fauna levels and quality should continue to be monitored at the site in accordance with the Biodiversity Management Plan.

3.1.6 Woodlands Hill Longwalls 1 to 4 Subsidence Predictions

The maximum predicted total vertical subsidence is 1850 mm and it occurs above the eastern end of WHLW4 due to the greater thickness of the Woodlands Hill seam and partial multi-seam mining conditions (MSEC 2026).

The maximum anticipated conventional strains resulting from the extraction of WHLW1 to WHLW4, derived by applying a factor of 10 to the maximum predicted curvatures, are 10 mm/m tensile and 15 mm/m compressive (MSEC 2026). These maximum strains occur where the depths of cover are shallowest in the western part of the mining area.

The range of surface cracking above WHLW1 to WHLW4 has been estimated based on the observations from the NSW coalfields for similar mining geometries and at similar depths of cover. The crack widths are estimated to be typically between 25 mm and 50 mm in approximately 50 per cent of cases, between 50 mm and 100 mm in approximately 30 per cent of cases, between 100 mm and 150 mm in approximately 15 per cent of cases and greater than 150 mm in approximately 5 per cent of cases. Multiple cracks resulting in deformations of several hundred millimetres could also occur in some locations (i.e., less than 1 per cent of cases) (MSEC 2026).

Surface compression heaving and stepping may also occur above WHLW1 to WHLW4, with deformation heights generally expected to be less than 100 mm (MSEC 2026). However, in some areas, vertical shear could exceed 300 mm in height (MSEC 2026). In addition, sills may partially extend across the corners of the longwalls, leading to localized and irregular movements where the cover depth is shallowest. It is anticipated that localized surface cracking and stepping caused by these sills will generally be less than 50 mm in areas with the shallowest cover (MSEC 2026).

The maximum predicted total conventional tilt is 30 mm/m (i.e. 3.0 % or 1 in 33). The greatest tilts are predicted to occur adjacent to the maingate of WHLW4 near its eastern end. The maximum predicted conventional curvatures are 1.0 km^{-1} for hogging and 1.5 km^{-1} for sagging.

The biodiversity technical letter report prepared by Hunter Eco (2026) for longwall mining of Woodlands Hill Longwalls 1-4 found that subsidence would not impact on vegetation communities or threatened flora or fauna. Specifically, there would be no impact on the microbat Southern Myotis, marsupial Squirrel Glider, reptile Hunter Valley Delma or the Pine Donkey Orchid.
Impact of subsidence on surface vegetation, in particular woodland, would be negligible due to the low subsidence levels and with low surface cracking predicted and with no appreciable change to stormwater flow paths (Hunter Eco 2025).

Consequently, no additional flora and fauna impact mitigation measures were proposed for Woodlands Hill Seam Longwalls 1-4 and it was recommended that flora and fauna levels and quality should continue to be monitored at the site in accordance with the Biodiversity Management Plan.

3.2 Key Risks

In accordance with DPHI (2022) *Extraction Plan Guideline,* a risk assessments were undertaken to consider the environmental risks relevant to the Whynot Seam Panels 2 to 5 Extraction Plan and Woodlands Hill Longwall Longwalls 1-4 Extraction Plan.

The suitably qualified and experienced experts endorsed by the Planning Secretary for the preparation of the Extraction Plans participated in the risk assessment. A number of risk control and management measures were identified during the risk assessment. Maxwell considers all risk control measures and procedures to be feasible to manage all identified risks.

The key risks to achieving the management objectives outlined in **Section 3.1** include:

- unauthorised ground disturbance;
- potential indirect impacts to threatened flora (i.e. cattle grazing);
- spontaneous combustion;

- bushfires;
- weeds;
- feral animals;
- unauthorised access;
- subsidence and
- vehicle strike.

Potential risks to achieving targeted vegetation communities (for offset areas where active regeneration is required) and fauna habitat in biodiversity management areas are insufficient establishment of target species, limited species diversity, limited vegetation structural development and limited habitat for targeted fauna species.

Management measures to meet biodiversity management objectives in **Section 3.1,** manage risks identified in **Section 3.2** and meet the performance criteria identified in **Section 3.6** are discussed in the following sections:

- Ground disturbance (**Section 3.3.1**)
- Direct and Indirect impacts (**Section 3.3.2**)
- Spontaneous combustion (**Section 3.3.3**)
- Bushfire Management (**Section 3.3.4**)
- Weed control (**Section 3.3.5**)
- Pest and feral animal management (**Section 3.3.6**)
- Access (**Section 3.3.7**)
- Vehicle strike (**Section 3.3.8**)
- Regeneration activities (**Section 3.3.9**)
- Habitat enhancement (**Section 3.3.10**)
- Erosion control (**Section 3.3.11**)
- Aboriginal heritage (**Section 3.3.12**)
- Subsidence (**Section 3.3.13**)

3.3 Management Measures for Biodiversity Management Areas

3.3.1 Ground Disturbance

Ground disturbance is defined as any activity that will result in disturbance to land, including but not limited to vegetation removal, topsoil stripping, fencing relocation, change to drainage, impact to cultural heritage sites and disturbance to previously rehabilitated areas.

Maxwell has developed and implemented a *Ground Disturbance Permit (GDP) Procedure*. The purpose of this procedure is to outline the GDP process used at the site to ensure all disturbance activities are undertaken in accordance with statutory requirements, site environmental management plans and internal standards. This procedure applies to all activities that will result in:

- Disturbance to natural surface;
- Disturbance to mine rehabilitation;
- Vegetation removal;
- Changes to existing landforms and drainage patterns; and
- Any other activity where surface disturbance is to occur.

The GDP applicant will complete **Section 1** of the GDP, providing applicant details and a description of the proposed disturbance including area of the disturbance, estimated start and end dates and the location of the disturbance. One application per disturbance location is required and must include all aspects of the works, including disturbance required for site access tracks, mobile crib huts, any required drainage structures, topsoil stockpile areas and equipment laydown areas. The GDP applicant must provide all relevant plans showing the proposed disturbance area, site access, drainage and any environmental controls.

The Environmental Coordinator will identify the risks associated with the proposed disturbance using the prompting questions described in **Section 2** of the GDP. The proposed disturbance area is initially checked to ensure it:

- is on Malabar-owned land;
- is within the approved disturbance area;
- is within the Forward Plan disturbance limit; and
- is not likely to impact threatened species or offset areas.

The location of the proposed disturbance with respect to the following features is also assessed so management measures can be implemented:

- An area requiring topsoil recovery or topsoil stockpile management.
- An area that requires erosion and sediment controls.
- An area of noxious weeds or large scale weed infestations.
- Aboriginal cultural heritage or heritage sites.
- Known contaminated land.

Controls to manage the identified risks shall be detailed by the Environmental Coordinator in **Section 5** of the GDP or in an attached memo addressed to the GDP applicant. Once the controls have been implemented and validated, approval can be given by the Environment, Community and Approvals Manager or their delegate for the proposed disturbance to commence.

Measures to mitigate impacts of ground disturbance on biodiversity are summarised in **Table 10**. These mitigation measures will be implemented through the GDP application and approval process. **Table 10** includes a description of any threat abatement plans relevant to the mitigation measures.

Table 10. Measures to mitigate and manage potential biodiversity impacts of ground disturbance

Potential Impact	Mitigation Measure	Techniques	Timing/Frequency
Displacement of fauna	Presence of a suitably qualified or experienced person (i.e. Ecologist or Environmental Coordinator) – Managed via GDP procedure.	Capture and release.	During native vegetation clearance and clearance of rocky areas.
Clearance impacts on native vegetation and habitat	Implement GDP procedure.	Areas to be cleared are delineated to prevent accidental damage during vegetation clearance activities or other works. Generally consistent with the guide: *Central Hunter Valley eucalypt forest and woodland: a nationally protected ecological community* (Department of the Environment and Energy 2016).	During native vegetation clearance and clearance of rocky areas.
		Pre-clearance flora and fauna surveys by suitably qualified personnel.	During native vegetation clearance and clearance of rocky areas.
		Impacts on fauna are managed during clearing activities by suitably qualified personnel.	During native vegetation clearance and clearance of rocky areas.
		Restricting vegetation clearance to the slashing of vegetation where possible along power line easements (i.e. leaving the lower stem and roots *in-situ* to maximise the potential for natural regrowth).	During vegetation clearance.
		Lopping of branches, rather than the removal of trees where possible along power line easements.	During vegetation clearance.
	Salvage and re-use of material for habitat enhancement - Managed via GDP procedure.	Identification of habitat features (e.g. cleared trees, surface rocks and tree hollows) that will be beneficial for habitat enhancement.	During and after vegetation clearance.

Potential Impact	Mitigation Measure	Techniques	Timing/Frequency
	Site Induction	Where possible, encourage Malabar personnel to use existing tracks for site access to Project areas to minimise potential disturbance of soils and revegetated areas.	During construction and operational stages.
	Access	Use of defined tracks to access sites to minimise the disturbance of soils.	During construction and operational stages.

3.3.2 Management of Potential Direct and Indirect Impacts to Threatened Flora

If threatened flora is found during pre-clearance surveys within the approved disturbance areas, the feasibility of salvaging, transplanting and or propagating will be assessed by a suitably qualified person. If determined to be feasible, a translocation methodology would be prepared and submitted to CPHR for approval and works would be undertaken in accordance with the *Guidelines for the Translocation of Threatened Plants in Australia* (Vallee et al., 2004).

In accordance with the BDAR prepared for the Maxwell EIS, the following measures have been implemented to protect threatened flora not likely to be directly impacted by the site (refer to **Figure 3**):

- Malabar have erected a livestock-proof fence around a 20 m buffer from the Hunter Valley Weeping Myall (*Acacia pendula*) Woodland/Acacia pendula population in the Hunter Catchment. The area has been signed 'Environmental Protection Area'.
- Malabar have erected a livestock-proof fence around at least a 20 m buffer from the Pine Donkey Orchid (*Diuris tricolor)* records. The area has been signed 'Environmental Protection Area'.

These fenced areas will be inspected annually for any expansion of the population which requires the fence to be extended and also to ensure that the fence remains in good condition and cattle continue to be excluded from these areas.

Potential impacts to threatened ecological communities listed under the BC Act and EPBC Act will also be managed via the implementation of the GDP procedure as discussed in **Section 3.3.1**. Any additional control measures such as fencing, signage, relocation and inspections will be specified as part of the GDP.

The GDP procedure, requirements of this plan and requirements related to threatened flora will be included in the site induction and toolbox talks for any employees and contractors who may undertake work in the vicinity of the fenced areas.

3.3.3 Spontaneous Combustion

Spontaneous combustion, including within the Southern Offset Area, will be managed in accordance with the *Spontaneous Combustion Management Plan* (SCMP) required under Development Consent SSD 9526, which details prevention, detection and remediation. The SCMP has been developed to consider management of biodiversity. The SCMP describes annual ecological monitoring which includes inspections for visible spontaneous combustion or spontaneous combustion impacts on vegetation (e.g. phyto-toxicity). Completion criteria for the final void, offset areas and mine rehabilitation areas includes criteria that there be no visible spontaneous combustion or vegetation impacts and no spontaneous combustion detected with thermal imaging.

Maxwell will continue to prevent spontaneous combustion outbreaks by reducing oxygen access to carbonaceous material, in accordance with the SCMP. This is generally achieved through:

- Compaction and shaping of the surface.
- Application of inert material to a specified depth.
  Appropriate surface treatment including water management and vegetation establishment.

Monitoring of rehabilitation includes inspections for visible spontaneous combustion and/or spontaneous combustion impacts on vegetation. Remediation is required when outbreaks occur on existing rehabilitated land. The remediation measure that will be implemented for isolated outbreaks includes the loading out and/or pushing out of carbonaceous material to remove the ignition source. Remediation measures that will be implemented for larger outbreaks include reshaping and capping with inert material and or track rolling to reduce potential airflow through material. Inert capping will be compacted where access allows. Malabar will continue to record areas affected by spontaneous combustion.

For areas within the Southern Offset Area where vegetation is impacted by spontaneous combustion, replanting will be undertaken as required. Compensatory offsets would be provided, if needed.

3.3.4 Bushfire Management

The site is located in the jurisdiction of the Muswellbrook Bush Fire Management Committee (BFMC), which includes the Muswellbrook Local Government Area. The bushfire season in the Muswellbrook BFMC area is generally from September to March and coincides with the north-west to westerly winds accompanied by high daytime temperatures and low relative humidity. The major sources of fire ignition in the BFMC area include lightning strikes from summer storms, fire escape from private properties and accidental ignitions in the rural areas and along rail and road corridors (Muswellbrook BFMC 2011).

Bushfire management on site will continue to be undertaken in accordance with the *Bushfire Management Plan* required under Development Consent SSD 9526. The *Bushfire Management Plan* has been developed to consider management of biodiversity. Offset areas are identified as key assets requiring protection from uncontrolled fires. The following bushfire risk mitigation measures will continue to be implemented:

- Where possible a minimum 10 m asset protection zone (APZ) is maintained around all key infrastructure associated with mining production. The vegetation in APZs is limited and is mowed and monitored annually (prior to the start of the fire season) to ensure the grass is mown and leaves and vegetation debris are removed.
- Non-operational grassed areas are mowed or grazed to reduce fuel loads.
- Infrastructure and property boundaries are slashed prior to the start of the fire season.
- Access tracks that can be used as fire trails are also be monitored annually.
- Regular inspection and maintenance of vegetation within power line easements to ensure vegetation does not interfere with power lines.
- Limiting vehicular movements to existing access tracks where possible to reduce the potential for spark emissions.
- Prohibiting smoking in any restricted area, such as near fuel storage areas, inside vehicles or buildings, or within any area designated as a non-smoking area.
- Prohibiting the lighting of fires or fireworks.
- All activities classed as “hot work” are undertaken in accordance with the established *Hot Work Permit Procedure* (as detailed in the *Bushfire Management Plan*). Hot work includes electric welding and cutting, oxy/fuel/gas heating and cutting, gas soldering and brazing, disc grinding, angle grinding and friction cutting using a fixed saw. The Hot Work Permit requires consideration of appropriate controls prior to the hot works being approved including working in designated hot work bays where possible, keeping fire protection equipment within 10 m of the hot work area, and appointing a Fire Watch to monitor the area after hot work is completed.
- On site fire-fighting equipment is serviced and maintained in accordance with the relevant Australian Standards.

3.3.5 Weed Control

Current weed control measures will continue and will be ongoing in order to promote the establishment of native vegetation communities. Weed control is an important factor in the success or failure of revegetation plantings and is a large component of long-term management in offset areas, including the Drayton Wildlife Refuge and Northern Offset Area.

Weed control measures may include a combination of herbicide application, biological controls and manual weeding. Broad scale herbicide application is not suitable in the Northern Offset Area or any part of the Southern Offset Area. Where possible, weeding will be carried out as appropriate, considering seasonal variations in rainfall and weed growth, botanical flowering times and treatment affectivity. All weeds will be removed prior to flowering, or at flowering prior to seed set where practicable. Flowering or fruiting plants are high priority, particularly due to the connected nature of ecosystem components downstream. Preventing greater weed invasion offsite will be mitigated by the strategic efforts employed onsite.

High Threat Weed species that have been recorded on the site are provided in **Table 11**. Occurrences of these species will be controlled and where possible eradicated from the ecological rehabilitation and as a maximum kept to < 10% cover in the grassland rehabilitation. In addition to the weeds recorded here, other species are likely to occur spontaneously from nearby areas and may also need to be controlled.

Weed control efforts are currently focused on listed High Threat Weeds (i.e. highly invasive species), identified through ecological monitoring, because they have potential to affect revegetation efforts through competition for resources. Weed control using herbicides is undertaken only as needed in recently established revegetation areas to minimise the risk of off target impacts from herbicide usage. When the canopy is established, some exotic pasture weed species are expected to be easier to control and may be reduced without the need for further removal efforts, due to a natural species dominance shift from areas receiving full sun to less intense sunlight under regenerated canopy.

Table 11. High threat weed species recorded

Species	Common Name
Bidens pilosa,	Cobbler's pegs
Carthamus lanatus	Saffron Thistle
Chloris gayana	Rhodes Grass
Galenia pubescens	Galenia
Hyparrhenia hirta	Coolatai grass
Hypericum perforatum	St John's Wort
Juncus acutus	Sharp Rush
Lycium ferocissimum	African Boxthorn
Opuntia humifusa	Spreading Prickly Pear
Opuntia stricta	Prickly Pear
Paspalum dilatatum	Paspalum
Senecio madagascariensis	Fireweed
Xanthium occidentale	Noogoora burr

A targeted weed management program will be implemented in woodland rehabilitation areas that are dominated by introduced species such as Rhodes Grass, Guinea Grass, Kikuyu and Galenia. Management measures may involve either spraying and/or grazing (only once the tree canopy is mature enough). The Golden Wreath Wattle will also be targeted using a cut-and-paint method. Effective weed control in biodiversity management areas is consistent with the guide: *Central Hunter Valley eucalypt forest and woodland: a nationally protected ecological community* (Department of the Environment and Energy 2016).

Where possible, vehicles and mechanical equipment that have driven in areas off roads or tracks will be washed down to minimise seed transport off the site.

3.3.6 Pest and Feral Animal Management

Pest and feral management (e.g. baiting and culling) will continue to be undertaken on site and within biodiversity offset areas where required based on recommendations from ecological monitoring. Where appropriate, kangaroo culls will be undertaken to reduce grazing of vegetation. Fencing to prevent damage to rehabilitation will be undertaken where required. Dog baiting and trapping may also be undertaken. Site pest and feral animal management will be undertaken in association with regional baiting programs conducted by Local Land Services (LLS). All work will be implemented in close liaison with the staff of the LLS and in close communication with adjoining land users to ensure a coordinated

approach to pest management. Offset areas will continue to be regularly monitored to ensure the effectiveness of controls through the ecological monitoring program.

Work areas will continue to be maintained clean and rubbish-free to discourage scavenging and reduce the potential for colonisation of these areas by non-endemic fauna. This mitigation measure is consistent with the *Threat abatement plan for predation by feral cats* (DCCEEW 2024).

3.3.7 Access

Unauthorised access to rehabilitation and offset areas (for firewood collection or shooting) will be prevented through fencing, gates and signage. All fencing and signage will be monitored annually and opportunistically.

The Southern Offset Area has been delineated as a restricted work area. Access is granted only to authorised personnel for environmental and water management works. Signage has been installed around the boundary at access points. Fencing of the Southern Offset Area is not considered necessary as the area is protected from unauthorised entry.

3.3.8 Vehicle Strike

To reduce the risks of vehicle strike, the permanent (sealed) site access road will be fenced to exclude kangaroos (and cattle) during construction. A maximum 60 kilometres (km) per hour speed limit on internal roads and maximum 80 km per hour speed limit on the sealed site access road will be imposed during construction and operational stages, in accordance with the approved *Traffic Management Plan*.

3.3.9 Regeneration Activities

3.3.9.1 Seed Collection

Seed collection may be undertaken during vegetation clearing activities or in the biodiversity management areas. Revegetation will use seed that has been locally sourced, where practicable. Seed provenance will be recorded for future reference.

3.3.9.2 Seed Propagation

Native woodland species that require heat treatment to break dormancy mechanisms will be treated with either boiling or smoke water. Woodland seed mix will be chemically treated with an appropriate insecticide to limit ant predation and inoculated with mycorrhiza to promote faster establishment. Plant propagation will be undertaken by a professional horticulturalist, following recognised horticultural practices. All plants will be suitably disease and pest-free, hardened off and well-watered at the time of planting.

3.3.9.3 Supplementary and Replacement Planting

Supplementary planting will be used to supplement assisted natural regeneration methods and to achieve the desired density of plants as needed. Tube stock plantings will be used largely to help establish a diverse canopy and mid-storey however, selected understory species may also be introduced via planting where direct seeding is ineffective for establishment of certain target species.

Replacement planting will be required where plant losses are experienced, or plants are struggling to establish. The successive plantings will take this into account and since a number of tube stock are known to not be likely to survive, slightly larger numbers will be planted than are expected to live. The replacement planting is aimed at ensuring an appropriate density of midstorey and canopy species, and that ground covers effectively cover the surface to maintain soil stability.

For offset areas where active regeneration is required, supplementary planting and replacement planting will occur during the optimal seasonal conditions to ensure maximum plant retention. This is likely to be

autumn (March to April) and spring (September to October), as temperatures are cooler and rainfall is higher but may be year-round, depending on local weather conditions in the months prior to planting. Newly planted tube stock may be accompanied with tree guards to protect the fresh foliage from predation, and from possible spray drift resulting from maintenance weeding operations. Follow up watering may be undertaken depending on the climatic conditions.

Native plant species to be planted would be selected on a site-by-site basis, depending on nearby remnant vegetation associations, soil types, aspect and site conditions. The species selected would aim to establish vegetation that reflects the composition and structure of vegetation communities present in the area. Plant species will be selected that are representative and characteristic of target plant communities. Target plant communities are generally consistent with existing local plant communities or plant communities being disturbed by mining. Plant species will be selected to expand existing flora populations and to provide appropriate foraging and nesting habitat for fauna species present and expected to occur on the site.

Floristic and structural diversity will be maximised by:

- Incorporating a range of plant species from all strata of each community that is being recreated;
- Including species characteristic of each community that provide forage value for native fauna;
- Including a range of nectar producing plants to ensure a supply of nectar for native fauna; and
- Ensuring a diversity of ground cover vegetation and habitat components such as leaf litter and logs to provide habitat for animals including invertebrates which provide food for other animals.

Planting lists of recommended woodland species are provided in **Table 12** which summarises the main species present in each stratum of the target vegetation communities. Other native species may be used during early establishment of woodland rehabilitation. This approach will promote expansion and connection of existing flora populations within the surrounding areas. It is also designed to avoid establishment of unviable populations due to unsuitable climatic conditions and genetic isolation.

Table 12. Species characteristic for different vegetation communities

Species (DPIE, 2021)	Narrow-leaved Ironbark Woodland	Spotted Gum-Grey Box Open Forest and Woodland	Forest Red Gum Open Forest and Woodland (Hunter Lowland Redgum Woodland)	Yellow Box and Grey Gum Woodland (Box-Gum Woodland) *
Overstorey				
Angophora floribunda	x		x	x
Brachychiton populneus	x	x		
Eucalyptus albens	x			
Eucalyptus blakelyi	x			
Eucalyptus crebra	x	X		
Corymbia maculata		X		
Eucalyptus melliodora				x
Eucalyptus moluccana	x	X		
Eucalyptus punctata			x	
Eucalyptus tereticornis			x	

Species (DPIE, 2021)	Narrow-leaved Ironbark Woodland	Spotted Gum-Grey Box Open Forest and Woodland	Forest Red Gum Open Forest and Woodland (Hunter Lowland Redgum Woodland)	Yellow Box and Grey Gum Woodland (Box-Gum Woodland) *
Midstorey				
Breynia oblongifolia			x	
Bursaria spinosa	x	X		
Clematis glycinoides	x			
Daviesia ulicifolia			x	
Jacksonia scoparia			x	
Leucopogon juniperinus			x	
Notelaea microcarpa	x	X		
Olearia elliptica	x	X		
Pandorea pandorana	x			
Persoonia linearis			x	
Understorey				
Aristida ramosa	x	x		x
Aristida vagans	x	X		
Austrodanthonia fulva	x	x		
Austrodanthonia racemosa	x			
Austrostipa scabra	x			
Austrostipa verticillata	x	X		
Brunoniella australis	x	X		
Calotis lappulacea	x	X		
Cheilanthes sieberi	x	X	x	
Chloris ventricosa	x	x		
Cymbopogon refractus	x	X	x	
Cynoglossum australe	x			
Cyperus gracilis	x			
Desmodium varians	x			
Dichondra repens	x	X		
Digitaria ramularis	x			
Echinopogon ovatus	x			
Einadia nutans				x
Eragrostis leptostachya	x	X		

Species (DPIE, 2021)	Narrow-leaved Ironbark Woodland	Spotted Gum-Grey Box Open Forest and Woodland	Forest Red Gum Open Forest and Woodland (Hunter Lowland Redgum Woodland)	Yellow Box and Grey Gum Woodland (Box-Gum Woodland) *
Eremophila debilis	x	X		
Galium propinquum	x			
Imperata cylindrica			x	
Lomandra confertifolia				x
Lomandra multiflora	x	X	x	
Microlaena stipoides	x	X	x	
Plectranthus parviflorus	x			
Pomax umbellata			x	
Pratia purpurascens	x		x	
Swainsona galegifolia	x			

Notes:
** Vegetation community originated as early rehabilitation planting. Grey Gum (Eucalyptus punctata) is not proposed to be planted within the Yellow Box and Grey Gum Woodland (Box-Gum Woodland).*

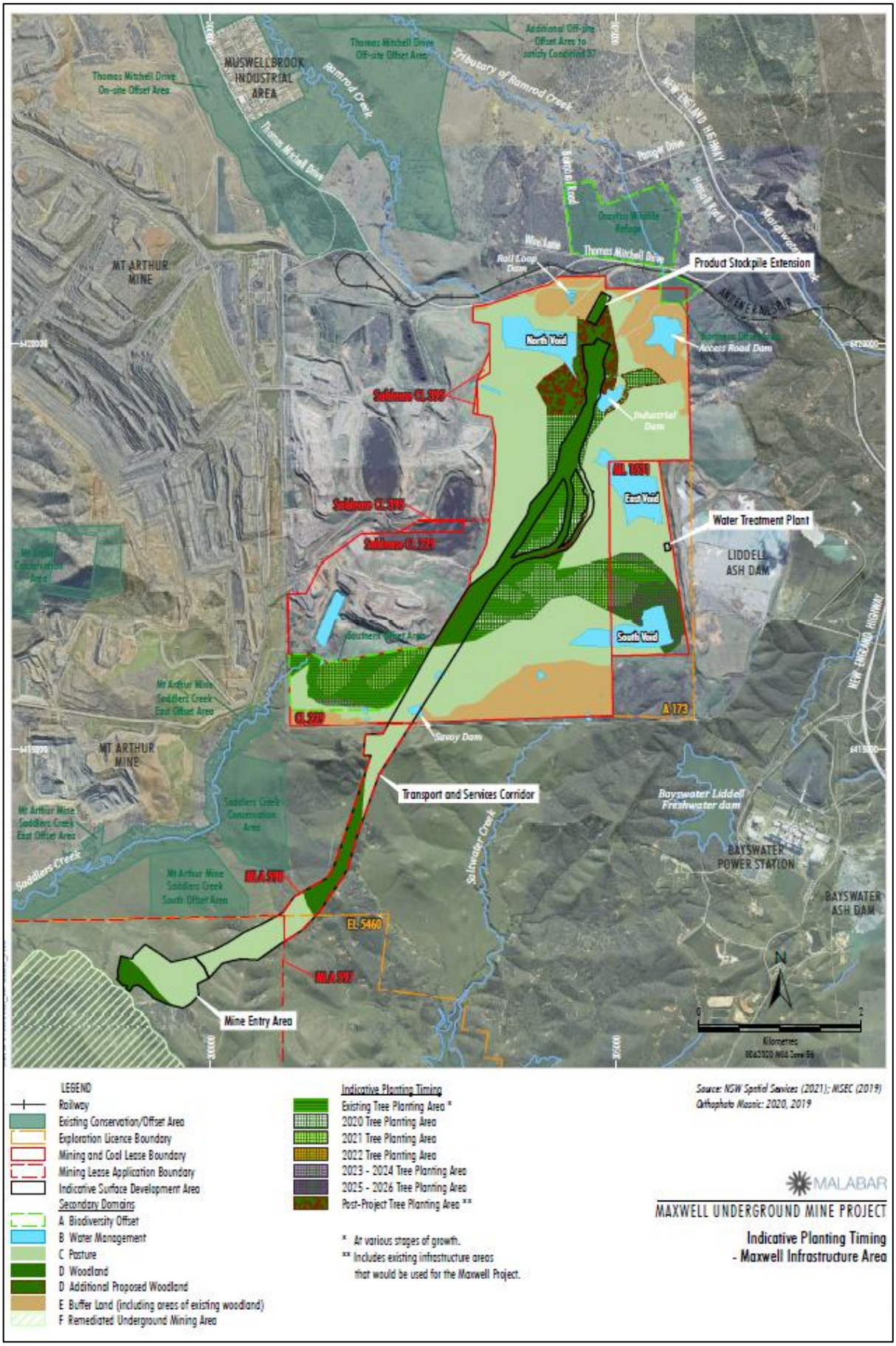

Figure 8. Indicative Planting Timing (Source: Development Consent SSD 9526)

3.3.10 Habitat Enhancement

The establishment of appropriate native fauna species in rehabilitated areas is essential to achieving mine closure objectives. The establishment of appropriate vegetation communities is critical to encourage and sustain native fauna on rehabilitation areas. Additional measures will be undertaken to establish appropriate native fauna, including (but not limited to) the following:

- Relocation and installation of habitat structures such as logs, root balls and stumps.
- Installation of nest boxes in mature woodland areas. Nest boxes will be installed in appropriately sized canopy trees within the conceptual woodland corridor. The nest boxes will be purposely built for birds, gliders and micro-bats and will assist with fauna movement across the site.

3.3.11 Erosion Control

Erosion and migration of sediment from disturbance areas into adjacent vegetation has the potential to facilitate weed invasion through the introduction of weed seed and nutrients that favour weed species. In addition, migrated sediment has the potential to adversely affect surrounding natural watercourses. An *Erosion and Sediment Control Plan* has been developed as part of the *Water Management Plan* and has been developed to consider management of biodiversity. The following measures will be adhered to in all disturbance areas:

- Relevant internal approvals and permits will be obtained before commencement of surface disturbance.
- The extent of disturbance (including trafficable areas) will be minimised and identified using appropriate pegging, barriers or signage.
- Appropriate erosion and sediment controls will be approved and established prior to land disturbance and will remain in place until exposed areas are stabilised.
- Clean water runoff from undisturbed catchments will be diverted around the disturbance areas via diversion drains and banks to discharge into natural watercourses, where practical. Diversions will be designed in accordance with the *Managing Urban Stormwater: Soils and Construction - Volume 1: Blue Book* (Landcom, 2004) (Blue Book).
- Runoff from disturbed areas will be diverted into sediment dams. Sediment dams will be designed, installed and maintained in accordance with the Blue Book requirements.
- Drains, diversion banks and channels will be stabilised and scour protection will be provided as necessary.
- Temporary erosion and sediment control measures will be used on site in accordance with the Blue Book requirements and may include silt fences, hay bales, jute mesh, check dams, cross banks, contour banks, armouring and straw mulching.

The *Surface Water Management Plan* within the *Water Management Plan* has also been developed in consideration of biodiversity management objectives. The *Surface Water Management Plan* includes geomorphology and riparian vegetation health baseline monitoring which will be used to assess any erosion and sedimentation impacts related to subsidence, once second workings commence.

3.3.12 Aboriginal Heritage

Any active regeneration activities (for offset areas where active regeneration is required) requiring ground disturbance will be managed through the GDP process (refer to **Section 3.3.1**). Aboriginal heritage will be managed in accordance with the *Heritage Management Plan* (HMP) required under Development Consent SSD 9526.

A comprehensive Aboriginal archaeological site database has been developed for the site. The database includes as a minimum the name, type, size (where applicable), status and coordinates of all known sites within and directly adjacent to the mine. The database will be reviewed on a regular basis and updated as required. The HMP has been developed in consideration of biodiversity management activities. An Aboriginal archaeological due diligence assessment may be required to identify any Aboriginal heritage constraints prior to a proposed activity occurring within the biodiversity management areas.

All Aboriginal archaeological due diligence assessments will be prepared in accordance with the *NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW 2010* (New South Wales Minerals Council Ltd, 2010). Recommendations from the Aboriginal archaeological due diligence assessment will be included as conditions under the relevant GDP. Archaeological salvage programs and the management of previously unrecorded Aboriginal Archaeological sites will be managed in accordance with the HMP.

3.3.13 Subsidence Induced Surface Impacts

If Maxwell were to exceed the performance measures in **Table 8** and the Planning Secretary determines that it is not reasonable or feasible to remediate the subsidence impact or environmental consequence or remediation measures have failed, then Maxwell would provide an offset to compensate for the subsidence that is proportionate to the significance of the subsidence impact or environmental consequence. The offset would be prepared following consultation with CPHR and to the satisfaction of the Planning Secretary. The offset will give priority to like-for-like physical environmental offsets but may also consider other offsets under the Biodiversity Offsets Scheme of the BC Act, such as the Biodiversity Conservation Fund established by BCT, or funding or implementing supplementary measures.

3.4 Maintenance of the Biodiversity Management Areas

Maintenance will focus on achieving the performance criteria in **Section 3.6**. Maintenance will be undertaken in response to issues identified through regular monitoring and will include:

- Management of erosion and maintenance of sediment control structures;
- Maintaining fencing as needed;
- Ongoing weed control measures;
- Ongoing feral animal control measures; and
- Replacement of dead or damaged native vegetation (seedlings).

3.5 Triggers for Remedial Action and Contingency Plan

Triggers for responses (remedial actions) to address risks to achieving biodiversity are summarised in **Table 13**. The Condition Red triggers in **Table 13** represent the scenario where performance criteria are not met and the responses for Condition Red represent contingency plan.

Table 13. Triggers and remedial actions for potential risks

Performance Indicator		Condition Green (Performance Criteria)	Condition Amber	Condition Red – Performance Criteria Not Met
Spontaneous combustion.	Trigger	No visible spontaneous combustion or vegetation impacts.	Isolated incidence of heating in rehabilitation areas.	Widespread or repeated incidences of ignition in rehabilitation areas.

Performance Indicator		Condition Green (Performance Criteria)	Condition Amber	Condition Red – Performance Criteria Not Met
	Response	No response required.	Monitor outbreaks. Review aerial thermal imagery for signs of heating. If the outbreak is at risk of increasing in size or having a detrimental impact to the biodiversity area, load out and or push out carbonaceous material to remove the ignition source.	Reshape and cap the area with inert material. Requirements for capping will be guided by the Spontaneous Combustion Management Plan. Track roll the area after capping to reduce potential air flow. Monitor the area post capping.
Condition of firebreaks and access tracks	Trigger	Asset protection zones and access trails maintained	Some Asset Protection Zones do not meet criteria in *Bushfire Management Plan* and some access tracks in poor condition.	Asset Protection Zones do not meet criteria in *Bushfire Management Plan* and access tracks are in poor condition.
	Response	No response required.	Undertake slashing, mowing or clearing in Asset Protection Zones and repair access roads.	Undertake slashing, mowing or clearing in Asset Protection Zones and repair access roads.
Species diversity and groundcover.	Trigger	Weeds of concern represent < 10% of species diversity and < 10% groundcover.	Weeds of concern represent > 10% but < 20% of species diversity and > 10% but < 20% groundcover. Weeds do not present a risk to the establishment of rehabilitation areas.	Weeds of concern represent > 20% of species diversity and > 20% groundcover and present a risk to the establishment of rehabilitation areas.

Performance Indicator		Condition Green (Performance Criteria)	Condition Amber	Condition Red – Performance Criteria Not Met
	Response	No response required.	Undertake targeted weed management activities.	Undertake additional monitoring. Increase weed management activities for the site. Undertake follow up targeted weed spraying. Prepare an annual weed management plan identifying key priority areas.
Feral animal impact observations during ecological monitoring.	Trigger	No pest animal sighting or related impacts. Vegetation establishment and habitat restoration activities are not being impeded by feral animals.	Increase in sightings of pest animals which may impact vegetation establishment. Evidence of vegetation establishment and habitat restoration activities being impeded by feral animals in isolated areas.	Pest animals pose significant risk to vegetation establishment and habitat restoration activities and achieving completion criteria.
	Response	No response required.	Implementing regular pest animal management.	Increase the frequency or extent of pest animal management based on advice from a suitably qualified person.
Unauthorised access and fence condition.	Trigger	No unauthorised access (firewood collection and shooting). Access prevented through adequate fencing, signage and inspections.	Evidence of occasional unauthorised access.	Evidence of frequent unauthorised access.
	Response	No response required.	Review fencing and signage and undertake minor repairs as required.	Undertake additional inspections and install trail cameras. Increase fencing and signage.

Performance Indicator		Condition Green (Performance Criteria)	Condition Amber	Condition Red – Performance Criteria Not Met
Canopy and understorey (tree and shrub) establishment in biodiversity offset areas where active regeneration is required.	Trigger	Seed and/or planting establishment results in > 200 stems/ha of understorey and > 400 stems/ha of canopy species at the end of 12 months.	Understorey and canopy species density less than completion criteria or not on a trajectory to meet completion criteria after 12 months.	Understorey and canopy species density less than completion criteria or not on a trajectory to meet completion criteria after 24 months.
	Response	No response required.	Undertake inspection of regeneration areas and identify possible threats (including topsoil quantity/quality, weed and pest, drought conditions). Undertake soil testing. Review the seed/tubestock species mix for its suitability.	Engage a suitably qualified person to review monitoring data and recommend management measures to achieve required species and community composition. Undertake soil amelioration. Reseed/replant as required at an appropriate time. Monitor the area post seeding/planting.
Vegetation species diversity	Trigger	Species diversity has increased or remained within 20% of reference sites over the past 5 years.	Species diversity has decreased over the past three years.	Species diversity has decreased over the past 5 years.
	Response	No response required.	Undertake supplementary planting and weed control.	Undertake further supplementary planting and weed control.

Performance Indicator		Condition Green (Performance Criteria)	Condition Amber	Condition Red – Performance Criteria Not Met
Ecosystem function	Trigger	Evidence of reproductive capacity such as buds, flowers or fruit on mature plants. Evidence of nutrient cycling – decomposition of litter layer and cryptogam presence. Vegetation condition and mortality rates consistent with analogue vegetation communities. Presence of regenerating species for each structural layer.	Ecosystems not on a trajectory towards closure criteria for at least 3 monitoring events.	Ecosystems not on a trajectory towards closure criteria for at least 5 monitoring events.
	Response	No response required.	Investigate potential causes of poor ecosystem function (fire, weeds) and undertake controls as required.	Investigate potential causes of poor ecosystem function (fire, weeds) and undertake controls as required.

Species composition for active vegetation regeneration in biodiversity offset areas where active regeneration is required	Trigger	Tree, shrub and ground cover species selected from published species composition lists for targeted vegetation communities:
		• Hunter Lowland Redgum Forest is part of the vegetation community within the Wildlife Refuge.
		• Spotted Gum - Grey Box woodland is part of the vegetation community within the Northern Offset area.
		• Native woodland communities established within the Southern Offset area include:
		  ○ Narrow-leaved Ironbark Woodland;
		  ○ Spotted Gum - Grey Box Open Forest Woodland;
		  ○ Forest Red Gum Open Forest Woodland; and
		  ○ Yellow Box and Grey Gum Woodland.
		
		Targeted vegetation endangered ecological communities will be recognisable as those
			Only some target species and communities are establishing in areas of active regeneration.	No target species and communities are establishing in areas of active regeneration.

Performance Indicator		Condition Green (Performance Criteria)	Condition Amber	Condition Red – Performance Criteria Not Met
		vegetation communities detailed in Development Consent SSD 9526.		
	Response	No response required.	Undertake inspection of regeneration areas and identify possible threats (including topsoil quantity/quality, weed and pest, drought conditions). Undertake soil testing. Review the seed mix/tubestock species for its suitability. Review the timing of seeding and planting activities.	Engage a suitably qualified person to review monitoring data and recommend management measures to achieve required species and community composition. Undertake soil amelioration (if required). Reseed/replant area. Seed/plant at the optimal time of the year. Monitor the area post seeding/planting.
Native animal species diversity and abundance.	Trigger	Native animal species diversity and abundance within 30% of analogue sites.	Native animal species diversity and abundance not on a trajectory towards analogue sites for at least 3 monitoring events.	Native animal species diversity and abundance not on a trajectory towards analogue sites for at least 5 monitoring events.
	Response	No response required.	Investigate cause of poor species diversity and abundance (consider availability of habitat features and feral animal presence) and undertake controls as required.	Investigate cause of poor species diversity and abundance (consider availability of habitat features and feral animal presence) and undertake controls as required.

Performance Indicator		Condition Green (Performance Criteria)	Condition Amber	Condition Red – Performance Criteria Not Met
Erosion	Trigger	No bare patches in groundcover vegetation > 100 square metres or active erosion rills > 30cm depth	Isolated bare patches in groundcover vegetation > 100 square metres or active erosion rills > 30cm depth.	Site wide active bare patches in groundcover vegetation > 100 square metres or active erosion rills > 30cm depth.
	Response	No response required.	Monitor existing water controls and undertake minor repairs and reseed as required.	Monitoring existing water controls and undertake a review of the landform design. Undertake major repairs and implement additional controls as required.
Subsidence	Trigger	Subsidence impacts less than modelled predictions.	Subsidence impacts approaching modelled predictions and or performance measure is likely to be exceeded.	Subsidence impacts greater than modelled predictions and or performance measure has been exceeded.
	Response	No response required.	Engage specialist to review subsidence predictions and biodiversity impacts. Update management plan (if required).	Engage specialist to conduct investigation: • review subsidence predictions and actual impacts; • identify contributing factors; and • identify recommendations to minimise impacts. Prepare remedial plan with contingency measures. Update management plan.

3.6 Performance Criteria

Short, medium, and long-term measures and completion criteria for Maxwell Infrastructure Biodiversity Offset Areas and remnant vegetation and fauna habitat are summarised in **Table 14**. The completion criteria in **Table 14** are consistent with the completion criteria for biodiversity areas in the currently approved *Rehabilitation Management Plan*.

Table 14. Management measures and completion criteria

Activity	Short Term Management Measures (Years 1 to 4)	Medium term Management Measures (Years 5 to 10)	Long Term Management Measures (Years 11+)	Indicators	Completion Criteria
Unauthorised ground disturbance	Continue implementation of established ground disturbance permit procedure.	Continue implementation of established ground disturbance permit procedure.	Continue implementation of established ground disturbance permit procedure.	Unauthorised ground disturbance.	Unauthorised ground disturbance prevented through implementation of the ground disturbance permit procedure.
Management of potential direct and indirect impacts on threatened flora species	Installation of fencing to prevent access by grazing animals.	Commence annual fence maintenance program.	Continue annual fence maintenance program.	Fence condition determined during annual assessment.	Fences constructed and maintained.
Spontaneous combustion management	Continue implementation of approved *Spontaneous Combustion Management Plan* this includes monitoring, compaction, application of inert material and surface treatment.	Implementation of approved *Spontaneous Combustion Management Plan* this includes monitoring, compaction, application of inert material and surface treatment.	Implementation of approved *Spontaneous Combustion Management Plan* this includes monitoring, compaction, application of inert material and surface treatment.	Spontaneous combustion.	No visible spontaneous combustion or vegetation impacts.
Bushfire management	Continue implementation of *Bushfire Management Plan* this includes maintaining fire breaks and access tracks and regular inspections of powerline easements.	Implementation of *Bushfire Management Plan* this includes monitoring, compaction, application of inert material and surface treatment.	Implementation of *Bushfire Management Plan* this includes monitoring, compaction, application of inert material and surface treatment.	Condition of firebreaks and access tracks, assessed annually.	Asset protection zones and access trails maintained.
Weed control	Continue weed control focused on listed High Threat Weeds identified through ecological monitoring with timing,	Continue targeted weed control program based on outcomes of ecological monitoring with timing, frequency and	Continue targeted weed control program based on outcomes of ecological monitoring with timing, frequency and	Species diversity and groundcover determined during annual ecological monitoring.	Weeds species < 10% of species diversity and < 10% groundcover.

Activity	Short Term Management Measures (Years 1 to 4)	Medium term Management Measures (Years 5 to 10)	Long Term Management Measures (Years 11+)	Indicators	Completion Criteria
	frequency and methodology as recommended by ecologist based on outcomes of annual ecological monitoring.	methodology as recommended by ecologist based on outcomes of annual ecological monitoring.	methodology as recommended by ecologist based on outcomes of annual ecological monitoring.		
Pest management	Continue baiting and culling with timing, frequency and methodology based on recommendations from specialist following ecological monitoring.	Continue baiting and culling with timing, frequency and methodology based on recommendations from specialist following ecological monitoring.	Continue baiting and culling with timing, frequency and methodology based on recommendations from specialist following ecological monitoring.	Feral animal impact observations during annual ecological monitoring.	Regular feral animal management implemented to protect rehabilitation. Vegetation establishment and habitat restoration activities are not being impeded by feral animals.
Management of unauthorised access	Installation of fencing, gates and signage where required, to limit access by unauthorised personnel. Establish and commence annual fence maintenance program.	Continue annual fence maintenance program.	Continue annual fence maintenance program.	Fence condition, assessed annually.	Fences constructed and maintained.
				Unauthorised access.	Unauthorised access (firewood collection, shooting) prevented through adequate fencing, signage and inspections.
Active regeneration (for offset areas where active regeneration is required)	Continue supplementary planting and weed control with timing, frequency and methodology as recommended by ecologist based on outcomes of annual ecological monitoring.	Supplementary planting and weed control with timing, frequency and methodology as recommended by ecologist based on outcomes of annual ecological monitoring.	Supplementary planting and weed control with timing, frequency and methodology as recommended by ecologist based on outcomes of annual ecological monitoring.	Canopy and understorey (tree and shrub) establishment determined during annual ecological monitoring.	Seed and or planting establishment results in > 200 stems/ha of understorey and > 400 stems/ha of canopy species at the end of 12 months.

Activity	Short Term Management Measures (Years 1 to 4)	Medium term Management Measures (Years 5 to 10)	Long Term Management Measures (Years 11+)	Indicators	Completion Criteria
Active regeneration (for offset areas where active regeneration is required)	Continue supplementary planting and weed control with timing, frequency and methodology as recommended by ecologist based on outcomes of annual ecological monitoring.	Supplementary planting and weed control with timing, frequency and methodology as recommended by ecologist based on outcomes of annual ecological monitoring.	Supplementary planting and weed control with timing, frequency and methodology as recommended by ecologist based on outcomes of annual ecological monitoring.	Vegetation species diversity determined during annual ecological monitoring.	Species diversity has increased or remained within 20% of reference sites over the past 5 years.
Active regeneration (for offset areas where active regeneration is required)	Continue supplementary planting and weed control with timing, frequency and methodology as recommended by ecologist based on outcomes of annual ecological monitoring.	Supplementary planting and weed control with timing, frequency and methodology as recommended by ecologist based on outcomes of annual ecological monitoring.	Supplementary planting and weed control with timing, frequency and methodology as recommended by ecologist based on outcomes of annual ecological monitoring.	Ecosystem function determined during annual ecological monitoring.	Evidence of reproductive capacity such as buds, flowers or fruit on mature plants.
					Evidence of nutrient cycling – decomposition of litter layer and cryptogam presence.
					Vegetation condition and mortality rates consistent with analogue vegetation communities.
					Presence of regenerating species for each structural layer
Active regeneration (for offset areas where active regeneration is required)	Continue supplementary planting and weed control with timing, frequency and methodology as recommended by	Supplementary planting and weed control with timing, frequency and methodology as recommended by	Independent ecological report identifies that completion criteria are being met for site biodiversity areas, as well	Species composition for active vegetation regeneration determined during	Tree, shrub and ground cover species selected from published species composition lists for targeted vegetation communities.

Activity	Short Term Management Measures (Years 1 to 4)	Medium term Management Measures (Years 5 to 10)	Long Term Management Measures (Years 11+)	Indicators	Completion Criteria
	ecologist based on outcomes of annual ecological monitoring.	ecologist based on outcomes of annual ecological monitoring	as conditional requirements of legal protection mechanisms. Monitoring and management programs are established and continuing for biodiversity areas. Legal mechanism in place to ensure long term protection of biodiversity areas	annual ecological monitoring.	Hunter Lowland Redgum Forest is part of the vegetation community within the Wildlife Refuge. Spotted Gum - Grey Box woodland is part of the vegetation community within the Northern Offset area. Native woodland communities established within the Southern Offset area included: • Narrow-leaved Ironbark Woodland; • Spotted Gum - Grey Box Woodland; and • Red Gum Forest Targeted vegetation endangered ecological communities will be recognisable as those vegetation communities detailed in Development Consent SSD 9526.

Activity	Short Term Management Measures (Years 1 to 4)	Medium term Management Measures (Years 5 to 10)	Long Term Management Measures (Years 11+)	Indicators	Completion Criteria
Fauna habitat creation	Installation of nest boxes (or hollows), purposely built for birds, gliders and micro-bats, in mature woodland areas.	Annual monitoring and maintenance of nest boxes. Installation of additional nest boxes if recommended following outcomes of ecological monitoring.	Annual monitoring and maintenance of nest boxes. Installation of additional nest boxes if recommended following outcomes of ecological monitoring.	Native animal species diversity and abundance determined during annual ecological monitoring.	Native animal species diversity and abundance within 30% of analogue sites.
Erosion	Continue ecological monitoring program which periodically assesses topsoil condition, with timing, frequency and methodology of maintenance actions as recommended by ecologist based on outcomes of annual ecological monitoring..	Ecological monitoring program periodically assesses topsoil condition, with timing, frequency and methodology of maintenance actions as recommended by ecologist based on outcomes of annual ecological monitoring.	Ecological monitoring program periodically assesses topsoil condition, with timing, frequency and methodology of maintenance actions as recommended by ecologist based on outcomes of annual ecological monitoring..	Erosion determined during annual ecological monitoring.	No bare patches in groundcover vegetation > 100 square metres or active erosion rills > 30cm depth

4 MEASUREMENT AND EVALUATION

The Environmental Coordinator is responsible for the implementation of the ecological monitoring program described in this section, including review of results and implementation of any remedial actions. The monitoring and inspections described in this section will be undertaken by suitably qualified and experienced person(s).

4.1 Fencing and Access Track Inspections

Fencing and access tracks will be inspected at least annually. Where possible, access tracks that can be used as fire trails will be monitored annually in August (or as amended) to assess if there are sufficient tracks for fire-fighting access and if tracks require maintenance. Gates that can be used to enter the site from external roads will also be checked regularly.

4.2 Ecological Monitoring

Routine ecological monitoring is conducted across Maxwell Infrastructure Biodiversity Offset Areas to:

- identify specific problems to enable research on causes and appropriate solutions (e.g. failed plantings, loss of seedlings, low emergent numbers, loss of particular species);
- enable the assessment of, and management of impacts on, biodiversity and rare species (e.g. weed invasion);
- track the progress of rehabilitation against the relevant completion criteria;
- determine that the actions detailed in this plan are leading to positive biodiversity outcomes; and
- provide feedback for continuous improvement of the rehabilitation program.

Maxwell Infrastructure Biodiversity Offset Areas will be adaptively managed using the Trigger Action Response Plan (TARP) in **Table 13**. If potential threats to regeneration activities are triggered, action will be undertaken in accordance with requirements in the TARP.

Thirteen monitoring sites have been established within the Northern Offset, Southern Offset and Wildlife Refuge areas. These sites are provided in **Table 15** and shown in **Figure 2**. Routine ecological monitoring includes walkover inspections, vegetation monitoring, recording of closure criteria features and weed and pest surveys. These are discussed in further detail in the following sections.

Table 15. Monitoring sites

Site Name	Monitoring Type	Vegetation Community/Target	PCT	General Location	Monitoring Group *
1a	Reference	Narrow-leaved Ironbark Woodland	1603	Wildlife Refuge	1
1b	Reference	Ironbark-Spotted Gum-Box Woodland	1604	Wildlife Refuge	2
1c	Reference	Ironbark-Spotted Gum-Box Woodland	1604	Northern Offset Area	1
3a	Reference	Forest Red Gum Woodland	1696	Wildlife Refuge	1
3b	Reference	Forest Red Gum Woodland	1696	Wildlife Refuge	2
3c	Reference	Forest Red Gum Woodland	1696	Northern Offset Area	2
5a	Reference	Yellow Box-Grey Gum Woodland	-	Southern Offset Area	1

Site Name	Monitoring Type	Vegetation Community/Target	PCT	General Location	Monitoring Group *
6a	Rehabilitation	Narrow-leaved Ironbark Woodland	1603	Southern Offset Area	2
7a	Rehabilitation	Ironbark-Spotted Gum-Box Woodland	1604	Southern Offset Area	1
7b	Rehabilitation	Ironbark-Spotted Gum-Box Woodland	1604	Southern Offset Area	2
8a	Rehabilitation	Forest Red Gum Woodland	1696	Southern Offset Area	1
8b	Rehabilitation	Forest Red Gum Woodland	1696	Southern Offset Area	2
9a	Rehabilitation	Yellow Box-Grey Gum Woodland	-	Southern Offset Area	1

Notes:
** Represents alternating years for monitoring.*
- Indicates no PCT available.

4.2.1 Walkover Inspections

During the first winter following seeding or planting, seeded or planted areas will be subject to a first rapid assessment via a walkover inspection. The rapid assessment identifies failed drainage structures or erosion, poor vegetation establishment/survival, and weed or pest competition. Corrective actions will be initiated following rapid assessments including remedial earthworks, supplementary tubestock planting, slashing, weed spraying, or pest control.

Annual walkover inspections of rehabilitation and offset areas will also be undertaken on a site-wide basis. A walkover assessment and review of aerial photography will be undertaken to assess general health of the vegetation, establishment of target species, weed cover and erosion and sediment control.

4.2.2 Vegetation Monitoring

Monitoring is undertaken annually, with each site monitored every second year (refer to the monitoring group specified in **Table 15**). Monitoring of vegetation is undertaken at reference sites (as per **Table 15**) to confirm rehabilitation is progressing towards relevant objectives.

The BAM is part of the Biodiversity Offsets Scheme. The BAM provides a consistent method to assess impacts on biodiversity values and improvements from management actions undertaken. The BAM will be used to collect vegetation data from existing monitoring sites. Each monitoring site consists of a 20m by 50m plot with a nested 20m by 20m plot, and includes a 50m transect running through the plot, as shown in **Figure 8**.

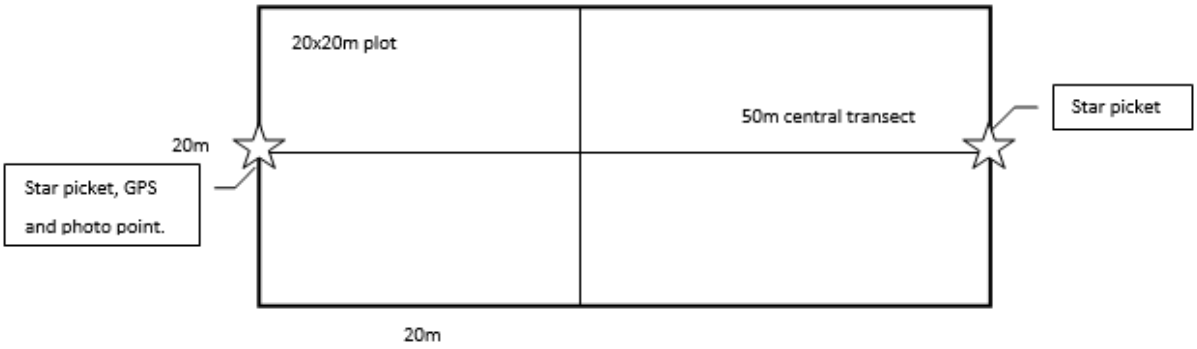

Figure 9. Vegetation monitoring plot layout

Vegetation monitoring sites are shown in **Figure 2**. These sites have been chosen to indicate the proposed final floristic structure of the native rehabilitation areas. Sites have been subjected to some form of prior disturbance, in particular clearing for agriculture and livestock grazing. All woodland sites are regrowth, with some introduced species. These sites, despite their disturbance history are typical of the local area and will help set realistic rehabilitation targets.

Vegetation monitoring will include assessing the composition, function and structure in accordance with the BAM (DPIE 2020). Additional features such as bare ground, planting loss and target species are also recorded to allow direct comparison to the completion criteria.

4.2.3 Fauna Monitoring

Fauna monitoring is targeted at determining the occurrence of terrestrial vertebrate animals, including bird, mammal, reptile and amphibian species. Fauna monitoring is undertaken every second year at reference sites 1b, 1c, 3a, 3c and 5a. Fauna monitoring includes:

- Diurnal bird surveys – Bird surveys undertaken at each fauna monitoring site for 20 minutes, between 6pm and 8pm. Following the initial 20-minute listening period, each new species identified triggers a further five minutes of survey effort.
- Herpetological surveys – Targeted surveys for reptile and amphibian species are undertaken at each fauna monitoring site over a 20-minute period. Surveys involve searching through likely habitat within 2 hectares of the flora monitoring site. Searches include watching for individuals basking, under rocks and logs, in the bark of trees, around water bodies and in man-made features.
- Nocturnal surveys – Spotlighting surveys targeted nocturnal mammals, birds and herpetofauna within 2 hectares of the flora monitoring site. Searches are undertaken over a one-hour period on foot using a handheld spotlight. Species are identified based on visual observations or vocal calls.
- Remote camera surveys – Remote camera surveys target mammal species. One remote camera is installed at each fauna monitoring site for 14 days.
- Micro-bat echolocation recording – Recording of micro-bat echolocation calls are conducted over two nights at each of the fauna monitoring sites using an Anabat II detector.

4.2.4 Weed and Pest Monitoring

Control of weeds and management of pest and feral animal will be undertaken as described in **Sections 3.8** and **3.9**. Monitoring of weeds and pests will be undertaken across all disturbance areas and would include:

- Routine visual inspections (at least bi-annually) across all disturbance areas to identify areas which require weed control measures.
- Visual follow-up inspections for areas where weed control measures have been undertaken. These inspections will assess the effectiveness of the weed management measures implemented and the requirement for any additional management measures.
- Identification of weed infestations adjacent to, or within the proposed disturbance area during the GDP process (**Section 3.3.1**).

- Routine monitoring of the activity of pests in all disturbance areas at least bi-annually, using various measures as suitable, including:
    - opportunistic sightings;
    - track counts on sand-pads; and
    - motion sensor cameras.
- Follow-up inspections on areas subject to vertebrate pest control to assess the effectiveness of control measures implemented and the requirement for any additional control measures.
- Identification of vertebrate pest infestations adjacent to or within the proposed disturbance area during the GDP process (**Section 3.3.1**).

The results of weed and pest monitoring will be reported annually in the Annual Review.

4.3 Incident and Non-Compliance Notification

An incident is defined in Development Consent SSD 9526 and DA 106-04-00 as an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.

In accordance with Schedule 2, Part E, Condition E9 of Development Consent SSD 9526 and Schedule 2, Part B, Condition C5 of DA 106-04-00, Maxwell must notify the Department within 24 hours of becoming aware of an incident. The notification must be made via the NSW planning portal (Major Projects) and address details of the incident including:

a) date, time and location;

b) a brief description of what occurred and why it has been classified as an incident;

c) a description of what immediate steps were taken in relation to the incident; and

d) identifying a contact person for further communication regarding the incident.

Maxwell shall provide the DPHI with a subsequent incident report in accordance with Appendix 7 of Development Consent SSD-9526.

A *Pollution and Incident Response Management Plan* (PIRMP) is maintained in accordance with the requirements of the Part 5.7A of the *Protection of the Environment Operations Act 1997* and Chapter 7, Part 3A of the *Protection of the Environment Operations* (General) Regulation 2009. Any pollution incident that causes actual or potential material harm will be reported to the relevant agencies immediately after it is identified, as described in the PIRMP. A copy of the PIRMP is located on Malabar's website.

In accordance with Schedule 2, Condition E10 of Development Consent SSD 9526 and Schedule 2, Part C, Condition C6 of DA 106-04-00, Maxwell shall notify DPHI within seven days of becoming aware of a non-compliance. The notification shall be in writing via the Department's Major Projects Website and identify the development (including the development application number and name), set out the condition of Development Consent SSD 9526 that the mine is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken, and when to address the non-compliance. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

4.4 Adaptive Management and Contingency Plan

In accordance with Schedule 2, Condition E4 of Development Consent SSD 9526 and Schedule 2, Part C, Condition C2 of DA 106-04-00, where any exceedance of performance measures has occurred, Maxwell shall, at the earliest opportunity:

- Take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;

- Consider all reasonable and feasible options for remediation (where relevant) and submit a report to DPHI describing those options and any preferred remediation measures or other course of action; and
- Implement reasonable remediation measures as directed by the Planning Secretary.

In accordance with Schedule 2, Condition E5(f) of Development Consent SSD 9526, the following contingency plan is used to manage any unpredicted impacts and their consequences, and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible:

- Review the unpredicted impact with consideration of any relevant activities and monitoring data;
- Identify the most likely source of the unpredicted impact;
- Review the existing process and current dust controls; and
- Implement appropriate mitigation measures.

Contingency plans for a range of scenarios where performance criteria are not met are summarised in **Table 12**.

4.5 Complaints Handling

The site maintains a 24-hour community hotline (1800 653 960) for any issues or enquiries. In addition to the community hotline, the site can also be contacted by emailing info@malabarresources.com.au.

If a complaint or enquiry is received regarding biodiversity, it is investigated as soon as reasonably practicable and managed in accordance with Maxwell's *Community Complaints and Enquiries Procedure*. Details such as complainant name, contact details, nature of concern, date, time and method of receival are recorded. While details of the enquiry vary depending on the nature and source of the enquiry, the following actions may result:

- Confirmation of whether the complainant would like the matter raised as a complaint or an enquiry.
- Identify further details which may assist in determining the cause of the complaint.
- Carry out an inspection of the site or conduct an assessment of monitoring results to identify the source.
- Identify if there is an exceedance or non-compliance with any consent or licence condition.
- Identify, where necessary and practical, methods to manage the source of the complaint and minimise the chance of a recurrence or the potential to generate further complaints.

All enquiries and/or complaints are recorded in an enquiries database. A summary of complaints is presented to the Community Consultative Committee (CCC) and included in the Annual Review and Environment Protection Licence Annual Return. A community complaints register is also available on the Malabar website.

5 AUDIT, REVIEW AND IMPROVEMENT

5.1 Review Schedule

The suitability of this BMP will be reviewed in accordance with Schedule 2, Condition E7 of Development Consent SSD 9526 and Schedule 2, Part C, Condition C3 of DA 106-04-00, that is within three months of:

- The submission of an incident notification under Condition E9/C5;
- the submission of an Annual Review under Condition E11;
- the submission of an Independent Environmental Audit under Condition E13/C7;
- the approval of any modification of the conditions of Development Consent SSD 9526 or DA 106-04-00; or
- notification of a change in development phase under Condition A13.

In accordance with Schedule 2, Part E, Condition E8 of Development Consent SSD 9526 and Schedule 2, Part C, Condition C4 of DA 106-04-00, if necessary, to improve the environmental performance of the

site, cater for a modification or comply with a direction, this plan will be revised. The revised plan will be submitted to DPHI for approval within six weeks of the review.

5.2 Reporting

In accordance with Schedule 2, Condition E11 of Development Consent SSD 9526, by the end of March in each year after the commencement of the development, or other timeframe agreed by the Planning Secretary, an Annual Review report will be submitted to DPHI. The Annual Review will include the following:

- A description of the development that was carried out in the previous calendar year and the development proposed to be carried out over the current calendar year.
- A comprehensive review of biodiversity management results and complaints over the previous calendar year.
- A description of non-compliances which occurred in the previous calendar year and actions that were (or are being) taken to rectify the non-compliance and avoid reoccurrence.
- Evaluation of the effectiveness of biodiversity management measures.
- Trends in monitoring data and any discrepancies between predicted and actual impacts.
- Measures to be implemented over the next calendar year to improve the environmental performance of the development.

In accordance with Schedule 2, Condition E12 of Development Consent SSD 9526 copies of the Annual Review will be submitted to Muswellbrook Shire Council and made available to the CCC and any interested person upon request.

In accordance with Schedule 2, Condition E17(a) of Development Consent SSD 9526, the Annual Review will be publicly available on Malabar's website.

5.3 Auditing

In accordance with Schedule 2, Condition E13 of Development Consent SSD 9526 and Schedule 2, Part C, Condition C7 of DA 106-04-00, Independent Environmental Audits will be conducted and carried out in accordance with the *Independent Audit Post Approval Requirements* (2020) or as updated from time to time and published on the Department's website.
Internal audits will be undertaken annually to ensure that the actions detailed in this plan have been carried out.

5.4 Access to Information

In accordance with Schedule 2, Condition E17 of Development Consent SSD 9526 and Schedule 2, Part C, Condition C11 of DA 106-04-00, before the commencement of construction and within 3 months of the approval of Antiene MOD1 until the completion of all rehabilitation required under Development Consent SSD 9526 and DA 106-04-00, Maxwell will make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of Development Consent SSD 9526) that are relevant to this plan publicly available on Malabar's website:

- this BMP;
- all current statutory approvals for the development;
- the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged;
- minutes of CCC meetings;
- regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;
- a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
- a summary of the current phase and progress of the development;
- contact details to enquire about the development or to make a complaint;
- a complaints register, updated monthly;

- the Annual Reviews of the development; and
- audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report.

This information shall be kept up to date, to the satisfaction of the Planning Secretary.

5.5 Records Management

All biodiversity management data is maintained in accordance with the Environmental Management Strategy and maintained on the premises for a period of at least five years.

5.6 Continuous Improvement

Feedback from the monitoring results and any complaints will be used to assess impacts and determine where improvements or mitigation measures are required. These measures will be reported on in the Annual Review.

5.7 Document Review History

A summary of the document history is outlined in **Table 16**.

Table 16. Document revision status

Issue	Issue Date	Review Team	Details of Change / Communication
1	August 2021	Robyn Skinner Colin Driscoll Donna McLaughlin	Document prepared following approval of Development Consent for SSD 9526 for the Maxwell UG Project.
1.1	September 2021	Robyn Skinner Donna McLaughlin	Document updated following review by DPIE.
2	April 2022	Robyn Skinner Donna McLaughlin	Document updated following approval of Maxwell MOD1.
3	May 2023	Robyn Skinner Donna McLaughlin	Document updated following approval of Maxwell MOD2 and to reflect amendments to the *Mining Act 1992*.
4	November 2023	Donna McLaughlin Alex Newton	Document updated following approval of Modification 1 of development consent DA 106-04-00 for the Drayton Rail Loop and Antiene Rail Spur.
5	June 2024	Donna McLaughlin James Johnson	Document updated to include commitments from the Whynot Seam Panels 2-5 Extraction Plan.
		Colin Driscoll	Review of the updated document as the suitably qualified expert for the Whynot Seam Panels 2-5 Extraction Plan.
6	April 2025	Donna Tiananga Dominic Brown	Document updated to include commitments from the Woodlands Hill Longwalls 1-4 Extraction Plan.
		Colin Driscoll	Review of the updated document as the suitably qualified expert for the Woodlands Hill Longwalls 1-4 Extraction Plan.

Issue	Issue Date	Review Team	Details of Change / Communication
	June 2025	Dominic Brown	Document updated following feedback from Muswellbrook Shire Council and CPHR.
7	May 2026	Donna Tiananga Tasman Willis	Updated following submission of Independent Environmental Audit report and approval of Maxwell MOD3. Updated following increase in WHLW3 and WHLW4 void widths from 150 m to 255 m.
7.1	July 2026	Donna Tiananga Tasman Willis	Document updated with feedback from CPHR.

6 INFORMATION, TRAINING AND INSTRUCTION

6.1 Competent Persons

Suitably qualified, competent and experienced persons shall be involved in the design, planning and implementation of this plan and related procedures.

6.2 Training

Biodiversity management training is provided to all employees and contractors through the Site Familiarisation process. From time to time, workforce communication and toolbox talks allow for discussion of the objectives and requirements of this and any other relevant Management Plans.

To ensure the effective implementation biodiversity controls, all site personnel involved in supervisory roles will undertake a more detailed awareness training package.

7 RESPONSIBILITIES

Responsibilities associated with this management plan are outlined **Table 16**.

Table 17. Responsibilities

Position	Responsibilities
General Manager	• Provide adequate resources for the implementation of this Plan.
Environment, Community and Approvals Manager	• Oversee the implementation of this Plan. • Notify regulatory authorities and affected stakeholders of incidents in accordance with this Plan. • Coordinate periodic reviews of this Plan. • Ensure all personnel are trained in accordance with this Plan.
Environmental Coordinator	• Assist the Environment, Community and Approvals Manager as required in the implementation of this Plan. • Coordinate investigations of biodiversity related incidents or complaints. • Coordinate the management of records and reporting of biodiversity data. • Manage biodiversity related complaints in accordance with the complaints management procedure. • Coordinate the implementation of the ecological monitoring program including review of results and implementation of any remedial actions. • Coordinate all internal and external audits.

Position	Responsibilities
	• Provide training in biodiversity protection and management to all relevant personnel.
Supervisors	• Notify the Environmental Coordinator of any incidents and exceedances involving biodiversity. • Implement biodiversity control measures as defined in this Plan. • Deliver any toolbox talks regarding biodiversity protection and management.
All Personnel	• Undertake works in accordance with the objectives and principles of this Plan. • Report any incidents involving biodiversity.

8 DOCUMENT INFORMATION

8.1 References

Hunter Eco (2019), Maxwell Project Biodiversity Development Assessment Report.

Hunter Eco (2024), Whynot Seam Extraction Plan Panels 2 to 5 – Flora and Fauna Technical Report

Hunter Eco (2025), Woodlands Hill Seam Extraction Longwalls 1 to 4 – Flora and Fauna Technical Report

Hunter Eco (2026), Revision of Woodlands Hill Seam Longwalls 1 to 4 Extraction Plan – Biodiversity Assessment

Malabar Coal (2020), Maxwell Project Biodiversity Stewardship Site Assessment Report.

Maxwell - Community Complaints and Enquiries Procedure

Maxwell - Pollution Incident Response Plan

Mine Subsidence Engineering Consultants (2022) - Maxwell Underground Mine Project: Modification Application – Subsidence Assessment

Mine Subsidence Engineering Consultants (2024) - Maxwell Underground Mine Project: Extraction Plan Application – Subsidence Assessment

Mine Subsidence Engineering Consultants (2025) - Maxwell Underground Mine Project: Extraction Plan Application – Subsidence Assessment for Woodlands Hill Longwalls 1-4

Mine Subsidence Engineering Consultants (2026) - Maxwell Underground Mine Project: Amendment of Extraction Plan – Subsidence Assessment

Department of Planning and Environment (2022) Extraction Plan Guideline

Department of the Environment (2015), Threat abatement plan for predation by feral cats, Canberra, ACT: Commonwealth of Australia.

Department of the Environment (2016), Central Hunter Valley eucalypt forest and woodland: a nationally-protected ecological community, Commonwealth of Australia 2016.

Department of Planning, Industry and Environment (2021), BioNet Vegetation Classification. https://www.environment.nsw.gov.au/NSWVCA20PRapp/default.aspx.

8.2 Definitions and Abbreviations

Term	Definition
Antiene MOD1	Drayton Rail Loop and Antiene Rail Spur (DA 106-04-00) Modification 1
APZ	Asset Protection Zone

Term	Definition
BC Act	Biodiversity Conservation Act 2016
BCD	Biodiversity and Conservation Division within the Department of Climate Change, Energy the Environment and Water
BCS	Biodiversity Conservation and Science (Formerly BCD).
BDAR	Biodiversity Development Assessment Report
BFMC	Bush Fire Management Committee
BMP	Biodiversity Management Plan
CCC	Community Consultative Committee
CEEC	Critically Endangered Ecological Community
CL	Coal Lease
CHPP	Coal Handling and Preparation Plant
CPHR	Conservation Programs, Heritage and Regulation Group within Department of Climate Change, Energy the Environment and Water (formerly BCS)
DA	Development Approval
DPIE	NSW Department of Planning, Industry and Environment
DPHI	Department of Planning, Housing and Infrastructure (Formerly DPIE)
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EP&A	Environmental Planning and Assessment
GDP	Ground Disturbance Permit
LLS	Local Land Services
m	Metres
MAC	Mt Arthur Coal
Maxwell MOD1	Maxwell Underground Project (SSD 9526) Modification 1
Maxwell MOD2	Maxwell Underground Project (SSD 9526) Modification 2
Maxwell MOD3	Maxwell Underground Project (SSD 9526) Modification 3
MEA	Mine Entry Area
MSC	Muswellbrook Shire Council

Term	Definition
NSW	New South Wales
PA	Project Approval
PIRMP	Pollution Incident Response Management Plan
SSD	State Significant Development
TARP	Trigger Action Response Plan
Toolbox Talk	A forum where information is presented to the crews
UG	Underground

9 APPENDIX 1 – REGULATORY REQUIREMENTS

State Significant Development Consent 9526

<table>
<tr><th>Clause</th><th>Requirement</th><th>Section of Plan</th></tr>
<tr><td>B45</td><td>Maxwell Infrastructure Biodiversity Offset Areas

The Applicant must:
(a) protect and maintain the Drayton Wildlife Refuge; and
(b) protect, maintain and enhance the Northern Offset Area,

as shown in Figure 11 in Appendix 5 and as described in the EIS.</td><td>3.1.1,3.1.2

Figure 2</td></tr>
<tr><td>B46</td><td>The Applicant must establish, maintain and protect the Southern Offset Area, as summarised in Table 5 and shown conceptually in Figure 11 in Appendix 5.

Table 5: Southern Offset Area requirements
<table>
<tr><th>Area</th><th>Offset Type</th><th>Minimum Size (ha)</th></tr>
<tr><td rowspan="5">Southern Offset Area</td><td>Narrow-leaved Ironbark Woodland</td><td>26</td></tr>
<tr><td>Spotted-Gum-Grey Box Open Forest Woodland</td><td>19</td></tr>
<tr><td>Forest Red Gum Open Forest and Woodland (Hunter Lowland Redgum Forest EEC)[a]</td><td>15</td></tr>
<tr><td>Yellow Box and Grey Gum Woodland (White Box Yellow Box Blakely’s Red Gum Woodland EEC)[a]</td><td>24</td></tr>
<tr><td>Rehabilitated woodland/pasture</td><td>4</td></tr>
</table>
a Identified vegetation communities must be established to a level that meets the listing criteria for the relevant EEC or CEEC as defined under the BC Act.tar</td><td>3.1.3,
Figure 7</td></tr>
</table>

Clause	Requirement	Section of Plan
B47	Prior to commencing construction under this consent, or other timeframe agreed by the Planning Secretary, the Applicant must retire the biodiversity credits specified in Table 6 below. The retirement of credits must be carried out in consultation with BCD and in accordance with the Biodiversity Offsets Scheme of the BC Act.	2.5

Credit Type	*Credits Required*
Ecosystem Credits	
PCT1607 Blakely's Red Gum – Narrow-leaved Ironbark – Rough-barked Apple Shrubby Woodland of the Upper Hunter (Woodland)	9
PCT1607 Blakely's Red Gum – Narrow-leaved Ironbark – Rough-barked Apple Shrubby Woodland of the Upper Hunter (Derived Native Grassland)	59
PCT1606 White Box - Narrow-leaved Ironbark – Blakely's Red Gum Shrubby Open Forest of the Central and Upper Hunter (Woodland)[a,c]	216
PCT1606 White Box - Narrow-leaved Ironbark – Blakely's Red Gum Shrubby Open Forest of the Central and Upper Hunter (Derived Native Grassland)[a,c]	971
PCT1655 Grey Box – Slaty Box Shrub – Grass Woodland on Sandstone Slopes of the Upper Hunter Valley and Sydney Basin (Woodland)[b,c]	21
PCT1692 Bull Oak Grassy Woodland of the Central Hunter Valley (Woodland)[c]	45
PCT201 Fuzzy Box Woodland on Alluvial Brown Loam Soils mainly in the NSW South Western Slopes Bioregion (Woodland)[c]	15
PCT201 Fuzzy Box Woodland on Alluvial Brown Loam Soils mainly in the NSW South Western Slopes Bioregion (Derived Native Grassland)	14
PCT1691 Narrow-leaved Ironbark – Grey Box Grassy Woodland of the Central and Upper Hunter (Woodland)[b,c]	184
PCT1691 Narrow-leaved Ironbark – Grey Box Grassy Woodland of the Central and Upper Hunter (Woodland)	6
PCT1604 Narrow-leaved Ironbark – Grey Box – Spotted Gum Shrub – Grass Woodland of the Central and Upper Hunter[c]	44
PCT1604 Woodland Rehabilitation	214
Species Credits	
Pine Donkey Orchid (*Diuris tricolor*)[d]	1,474
Tarengo Leek Orchid (*Prasophyllum petilum*)[c, d]	1,114
Rusty Greenhood (*Pterostylis chaetophora*)[d]	229
Tesselate Everlasting (*Ozothamnus tesselatus*)[c, d]	217
Austral Toadflax (*Thesium australe*)[c, d]	34
Pink-tailed Legless Lizard[c]	382
Striped Legless Lizard[c]	1,126
Squirrel Glider	524
Southern Myotis	9

[a] → *Commensurate with White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act*
[b] → *Commensurate with Central Hunter Valley Eucalypt Forest and Woodland CEEC under the EPBC Act*
[c] → *Under clause 6.6A of the Biodiversity Conservation Regulation 2017, variation rules do not apply to the identified species or community and the required credits must be retired on a like-for-like basis*
[d] → *Total credit requirements have been calculated based on assumed presence of this species and may be reduced under condition B49*

Section Break (Next Page)

<table>
<tr><th>Clause</th><th>Requirement</th><th>Section of Plan</th></tr>
<tr><td>B48</td><td>Prior to commencing any works associated with the realignment of Edderton Road, or other timeframe agreed by the Planning Secretary, the Applicant must retire the biodiversity credits specified in Table 7 below. The retirement of credits must be carried out in consultation with BCD and in accordance with the Biodiversity Offsets Scheme of the BC Act.
Table 7: Biodiversity Offset Requirements (Stage Two)
<table>
<tr><th>Credit Type</th><th>Credits Required</th></tr>
<tr><td>Ecosystem Credits</td><td></td></tr>
<tr><td>PCT1606 White Box - Narrow-leaved Ironbark – Blakely's Red Gum Shrubby Open Forest of the Central and Upper Hunter (Woodland)[a,c]</td><td>2</td></tr>
<tr><td>PCT1606 White Box - Narrow-leaved Ironbark – Blakely's Red Gum Shrubby Open Forest of the Central and Upper Hunter (Derived Native Grassland)[a,c]</td><td>45</td></tr>
<tr><td>PCT1655 Grey Box – Slaty Box Shrub – Grass Woodland on Sandstone Slopes of the Upper Hunter Valley and Sydney Basin (Woodland)[b,c]</td><td>2</td></tr>
<tr><td>PCT1655 Grey Box – Slaty Box Shrub – Grass Woodland on Sandstone Slopes of the Upper Hunter Valley and Sydney Basin (Derived Native Grassland)</td><td>24</td></tr>
<tr><td>PCT1731 Swamp Oak – Weeping Grass Grassy Riparian Forest of the Hunter Valley</td><td>4</td></tr>
<tr><td>PCT201 Fuzzy Box Woodland on Alluvial Brown Loam Soils mainly in the NSW South Western Slopes Bioregion (Derived Native Grassland)</td><td>26</td></tr>
<tr><td>PCT1691 Narrow-leaved Ironbark – Grey Box Grassy Woodland of the Central and Upper Hunter (Woodland)[b,c]</td><td>51</td></tr>
<tr><td>Species Credits</td><td></td></tr>
<tr><td>Pine Donkey Orchid (Diuris tricolor)[d]</td><td>157</td></tr>
<tr><td>Tarengo Leek Orchid (Prasophyllum petilum)[c,d]</td><td>98</td></tr>
<tr><td>Rusty Greenhood (Pterostylis chaetophora)[d]</td><td>57</td></tr>
<tr><td>Tesselate Everlasting (Ozothamnus tesselatus)[c,d]</td><td>5</td></tr>
<tr><td>Pink-tailed Legless Lizard[c]</td><td>41</td></tr>
<tr><td>Striped Legless Lizard[c]</td><td>99</td></tr>
<tr><td>Squirrel Glider</td><td>33</td></tr>
<tr><td>Southern Myotis</td><td>36</td></tr>
</table>
[a] → Commensurate with White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act
[b] → Commensurate with Central Hunter Valley Eucalypt Forest and Woodland CEEC under the EPBC Act
[c] → Under clause 6.6A of the Biodiversity Conservation Regulation 2017, variation rules do not apply to the identified species or community and the required credits must be retired on a like-for-like basis
[d] → Total credit requirements have been calculated based on assumed presence of this species and may be reduced under condition B49</td><td>2.5</td></tr>
</table>

<table>
<tr><th>Clause</th><th>Requirement</th><th>Section of Plan</th></tr>
<tr><td>B49</td><td>The biodiversity credit requirements outlined in conditions B47 and B48 for Diuris tricolor; Prasophyllum petilum; Pterostylis chaetophora; Ozothamnus tesselatus and Thesium australe, may be reduced if the Applicant demonstrates, to the satisfaction of the Planning Secretary, that the credit requirements in Table 6 and/or Table 7 do not accurately reflect the extent of impacts on these species as a result of the development. Any request from the Applicant to reduce these credit requirements must:
(a) be in writing and addressed to the Planning Secretary; and
(b) be supported by an expert report or survey report outlining the findings of additional surveys, which has been prepared:
(i) by a suitably qualified and experienced person/s; [a,b]
(ii) in accordance with the BAM;
(iii) in consultation with Council; and
(iv) in consultation with BCD,
to the satisfaction of the Planning Secretary.
[a] In the case of an expert report, a ‘suitably qualified and experienced person’ means a person who meets the relevant requirements outlined in section 6.5.2 of the BAM
[b] In this case of a survey report, a ‘suitably qualified and experienced person’ means an accredited person as defined in section 1.6 of the BC Act.</td><td>2.5</td></tr>
<tr><td>B50</td><td>The Applicant must ensure that the Biodiversity Offset Strategy and the Rehabilitation Strategy for the development focus on the regeneration, enhancement and/or re-establishment of:
a) the following vegetation communities:
(i) 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 CEEC;
(ii) Central Hunter Grey Box-Iron Bark Woodland in the NSW North Coast and Sydney Basin Bioregions CEEC; and
b) habitat and/or foraging resources for other significant and/or threatened flora and fauna species, including:
(i) Pink-tailed Legless Lizard;
(ii) Delma vescolineata;
(iii) Swift Parrot; and
(v) Regent Honeyeater.
Notes:
Identified species and communities are as defined under the BC Act.</td><td>In accordance with Condition B76, this condition relates to the Southern Offset Area, and is addressed in Section 3.1.3.</td></tr>
<tr><td>B50A</td><td>Within 12 months of the determination of Mod 1, or other timeframe agreed by the Planning Secretary, the Applicant must retire the biodiversity credits specified in Table 7A below. The retirement of credits must be carried out in consultation with BCD and in accordance with the Biodiversity Offsets Scheme of the BC Act.

Table 7A: Biodiversity credit requirements (Mod 1)
<table><tr><th>Credit Type</th><th>Credits Required</th></tr><tr><td>Ecosystem Credits</td><td></td></tr><tr><td>PCT1606 White Box- Narrow-leaved Ironbark – Blakely’s Red Gum Shrubby Open Forest of the Central and Upper Hunter (Woodland)[a,b]</td><td>75</td></tr><tr><td>PCT1692 Bull Oak Grassy Woodland of the Central Hunter Valley (Woodland)[b]</td><td>13</td></tr><tr><td>Species Credits</td><td></td></tr><tr><td>Squirrel Glider</td><td>17</td></tr></table>[a] Commensurate with White Box-Yellow Box-Blakely’s Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act
[b] Under clause 6.6A of the Biodiversity Conservation Regulation 2017, variation rules do not apply to the identified species or community and the required credits must be retired on a like-for-like basis</td><td>2.5</td></tr>
</table>

<table>
<tr><th>Clause</th><th>Requirement</th><th>Section of Plan</th></tr>
<tr><td>B50B</td><td>Prior to commencement of disturbance of native vegetation associated with Mod 2, the Applicant must retire the biodiversity credits specified in Table 7B below. The retirement of credits must be carried out in consultation with BCD and in accordance with the Biodiversity Offsets Scheme of the BC Act including application of relevant Ancillary Rules established under the BC Act.

Table 7B: Biodiversity credit requirements (Mod 2)
<table><tr><th>Credit Type</th><th>Credits Required</th></tr><tr><td>Ecosystem Credits</td><td></td></tr><tr><td>PCT1606 White Box – Narrow-leaved Ironbark – Blakely's Red Gum shrubby open forest of the central and upper Hunter</td><td>92</td></tr><tr><td>PCT1655 Grey Box – Slaty Box Shrub – Grass Woodland on Sandstone Slopes of the Upper Hunter Valley and Sydney Basin</td><td>4</td></tr><tr><td>PCT1692 Bull Oak grassy woodland of the Central Hunter Valley</td><td>15</td></tr><tr><td>PCT1693 Yellow Box – Rough-barked Apple gassy woodland of the upper Hunter and Liverpool Plains</td><td>45</td></tr><tr><td>PCT201 Fuzzy Box woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion</td><td>27</td></tr><tr><td>PCT1691 Narrow-leaved Ironbark – Grey Box grassy woodland of the central and upper Hunter</td><td>64</td></tr><tr><td>Species Credits</td><td></td></tr><tr><td>Leafless Tongue Orchid (Cryptostylis hunteriana)</td><td>11</td></tr><tr><td>Pine Donkey Orchid (Diuris tricolor)</td><td>17</td></tr><tr><td>Tarengo Leek Orchid (Prasophyllum petilum)</td><td>21</td></tr><tr><td>Austral Toadflax (Thesium australe)</td><td>8</td></tr><tr><td>Squirrel Glider (Petaurus norfolcensis)</td><td>75</td></tr><tr><td>Southern Myotis (Myotis macropus)</td><td>9</td></tr></table></td><td>2.5</td></tr>
<tr><td>B50C</td><td>If the Legless Lizard, Delma vescolineata, is listed as a threatened species under the BC Act during the life of this consent, or otherwise agreed by the Planning Secretary, the Applicant must retire the applicable biodiversity credits (consistent with the applicable Biodiversity Risk Weighting as per the relevant row in Table 7C) within 2 years of the species being listed as a threatened species under the BC Act. The retirement of credits must be carried out in consultation with BCD and in accordance with the Biodiversity Offsets Scheme of the BC Act, including the application of Ancillary Rules: Biodiversity conservation actions that may be relevant to Delma vescolineata published under clause 6.5 of the Biodiversity Conservation Regulation 2017.

Table 7C: Biodiversity credit requirement alternatives – Legless Lizard (Delma vescolineata)
<table><tr><th rowspan="2">Biodiversity Risk Weighting</th><th>EIS</th><th>MOD 1</th><th>MOD2</th><th rowspan="2">Credits Required^</th></tr><tr><th colspan="3">Credits Required</th></tr><tr><td>1.5</td><td>1,226</td><td>54</td><td>156</td><td>1,436</td></tr><tr><td>2</td><td>1,635</td><td>72</td><td>208</td><td>1,915</td></tr><tr><td>3</td><td>2,452</td><td>108</td><td>312</td><td>2,872</td></tr></table>^ Cumulative total for the Development, incorporating MOD 1 and MOD 2.</td><td>2.5</td></tr>
</table>

Clause	Requirement	Section of Plan
B51	**Biodiversity Management Plan** The Applicant must prepare a Biodiversity Management Plan for all areas of the development, that are not, or will not, be subject to condition C8(g)(iv)[1], to the satisfaction of the Planning Secretary.	1.2
	This plan must: a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;	2.3 Appendix 3
	b) be prepared in consultation with BCD and Council;	2.3 Appendix 4
	c) describe the short, medium, and long term measures to be undertaken to manage the remnant vegetation and fauna habitat and in the Maxwell Infrastructure Biodiversity Offset Areas required under conditions B45 and B46;	3.3
	d) describe how biodiversity management would be integrated with similar measures within other management plans, including the Rehabilitation Management Plan referred to in condition B82;	3.1.3, 3.3
	e) include detailed performance and completion criteria for evaluating the performance of the Maxwell Infrastructure Biodiversity Offset Areas required under conditions B45 and B46 and include triggers for remedial action, where these performance or completion criteria are not met;	3.5, 3.6
	f) describe the measures to be implemented to: (i) fulfil or build upon the commitments outlined in the Offset Strategy dated June 2016 with respect to the Drayton Wildlife Refuge and North Offset Area;	3.3
	(ii) satisfy the requirements of condition B46 of this Schedule with respect to the Southern Offset Area; and	3.1.3
	(iii) manage and respond to spontaneous combustion risks on vegetation establishment within the Southern Offset Area, including replanting or the provision of compensatory offsets, if needed;	3.3.3
	g) describe the measures to be implemented within the approved disturbance areas to:	
	(i) minimise the amount of clearing;	3.3.1
	(ii) minimise impacts on fauna, including undertaking pre-clearance surveys;	3.3.1
	(iii) provide for the salvage, transplanting and/or propagation of any threatened flora found during pre-clearance surveys, in accordance with the *Guidelines for the Translocation of Threatened Plants in Australia* (Vallee et al., 2004), where feasible; and	3.3.2
	(iv) maximise the salvage of resources, including tree hollows, vegetation and soil resources, for beneficial reuse, including fauna habitat enhancement;	3.3.1
	h) describe the measures to be implemented on the site to:	
	(i) minimise impacts to threatened ecological communities listed under the BC Act and EPBC Act, and contribute to conservation strategies for these communities;	3.3
	(ii) minimise impacts on fauna habitat resources such as hunting and foraging areas, habitat trees, fallen timber and hollow-bearing trees	3.3.1
	(iii) enhance the quality of vegetation, vegetation connectivity and fauna habitat including through the assisted regeneration and/or targeted revegetation of appropriate canopy, sub-canopy, understorey and ground strata	3.3.9
	(iv) introduce naturally scarce fauna habitat features such as nest boxes and salvaged tree hollows and promote the use of these introduced habitat features by threatened fauna species;	3.3.10

[1] "C8 The Applicant must prepare an Extraction Plan for all second workings on site of the development to the satisfaction of the Planning Secretary. Each Extraction Plan must… (g) include ..(iv) Biodiversity Management Plan.."

<table>
<tr><th>Clause</th><th>Requirement</th><th>Section of Plan</th></tr>
<tr><td></td><td>(v) manage any potential conflicts between these works and Aboriginal heritage values; and</td><td>3.3.12</td></tr>
<tr><td></td><td>(vi) protect vegetation and fauna habitat outside of the approved disturbance areas;</td><td>3.3.2</td></tr>
<tr><td></td><td>(vii) manage the collection and propagation of seed from the local area</td><td>3.3.9</td></tr>
<tr><td></td><td>(viii) control weeds, including measures to avoid and mitigate the spread of noxious weeds</td><td>3.3.5</td></tr>
<tr><td></td><td>(ix) control feral pests with consideration of actions identified in relevant threat abatement plans</td><td>3.3.6</td></tr>
<tr><td></td><td>(x) control erosion;</td><td>3.3.11</td></tr>
<tr><td></td><td>(xi) manage any grazing and agriculture</td><td>3.3.2, 3.3.7</td></tr>
<tr><td></td><td>(xii) control access to vegetated or revegetated areas; and</td><td>3.3.7</td></tr>
<tr><td></td><td>(xiii) manage bushfire hazards;</td><td>3.3.4</td></tr>
<tr><td></td><td>i) include a seasonally-based program to monitor and report on the effectiveness of the above measures, progress against the detailed performance indicators and completion criteria, and identify improvements that could be implemented to improve biodiversity outcomes;</td><td>4.2</td></tr>
<tr><td></td><td>j) identify the potential risks to the successful implementation of the Biodiversity Management plan, and include a description of the contingency measures to be implemented to mitigate against these risks; and</td><td>3.2</td></tr>
<tr><td></td><td>k) include details of who would be responsible for monitoring, reviewing, and implementing the plan.</td><td>Table 16</td></tr>
<tr><td>B52</td><td>The Applicant must not commence construction until the Biodiversity Management Plan is approved by the Planning Secretary.</td><td>1.2</td></tr>
<tr><td>B53</td><td>The Applicant must implement the Biodiversity Management Plan as approved by the Planning Secretary.
Note: The Biodiversity Management Plan and Rehabilitation Management Plan need to be substantially integrated for achieving biodiversity objectives for the rehabilitated site.</td><td>1.2

1.2, 3.3</td></tr>
<tr><td>C1</td><td>The Applicant must ensure that the development does not cause any exceedances of the performance measures in Table 9.
Table 9: Subsidence impact performance measures – natural and heritage features etc
<table>
<tr><th>Feature</th><th>Performance Measure</th></tr>
<tr><td colspan="2">Biodiversity</td></tr>
<tr><td>Threatened species, threatened populations, or endangered ecological communities</td><td>• No greater subsidence impacts or environmental consequences than predicted in the document/s listed in condition A2(c)
• Negligible impacts on threatened species, populations or communities due to remediation of subsidence cracking</td></tr>
</table>
Notes:
• These performance measures apply to all mining taking place after the date of this consent.
• The Applicant is required to define more detailed performance indicators (including impact assessment criteria) for each of these performance measures in the various management plans that are required under this consent (see condition C8).</td><td>3.1.4</td></tr>
</table>

Clause	Requirement	Section of Plan
C2	Measurement and monitoring of compliance with performance measures and performance indicators in this consent is to be undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located. These methods are to be fully described in the relevant management plans and monitoring programs. In the event of a dispute over the appropriateness of proposed methods, the Planning Secretary will be the final arbiter.	Section 4
C3	If the Applicant exceeds the performance measures in Table 9 and the Planning Secretary determines that: (a) it is not reasonable or feasible to remediate the subsidence impact or environmental consequence; or (b) remediation measures implemented by the Applicant have failed to satisfactorily remediate the subsidence impact or environmental consequence then the Applicant must provide an offset[a] to compensate for the subsidence impact or environmental consequence, that is proportionate to the significance of the subsidence impact or environmental consequence, following consultation with BCD and/or Heritage NSW and to the satisfaction of the Planning Secretary. [a] Any offset required under this condition must be proportionate with the significance of the impact or environmental consequence	3.3.13
C4	The offset[a] required under condition C3 must give priority to like-for-like physical environmental offsets, but may also consider other offsets under the Biodiversity Offsets Scheme of the BC Act, such as the Biodiversity Conservation Fund established by BCT, or funding or implementing supplementary measures, such as: (a) actions outlined in threatened species recovery programs; (b) actions that contribute to threat abatement programs; (c) biodiversity research and survey programs; and/or (d) rehabilitating degraded habitat. [a] Any offset required under this condition must be proportionate with the significance of the impact or environmental consequence	3.3.13
C7	The Applicant may carry out first workings within the underground mining area of the approved mine plan, other than in accordance with an approved Extraction Plan, provided that the Resources Regulator is satisfied that the first workings are designed to remain stable and non-subsiding in the long term, except insofar as they may be impacted by approved second workings. *Note: The intent of this condition is to ensure that first workings are built to geotechnical and engineering standards sufficient to ensure long term stability, with negligible direct subsidence impacts.*	1.2

Clause	Requirement	Section of Plan
C8	The Applicant must prepare an Extraction Plan for all second workings on the site of the development to the satisfaction of the Planning Secretary. Each Extraction Plan must:	
	(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;	**2.3**
	(b) be prepared in consultation with the Resources Regulator, DPE Water and SANSW;	2.3
	(c) include detailed plans of existing and proposed first and second workings and overlying surface features, including any applicable adaptive management measures;	Extraction Plan
	(d) include adequate consideration of mine roof and floor conditions, pillar width to height ratio, final pillar design dimensions and the long-term stability of pillars which has been undertaken in consultation with the Resources Regulator;	Extraction Plan
	(e) provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed mining covered by the Extraction Plan, incorporating any relevant information obtained since this consent;	
	(f) describe in detail the performance indicators to be implemented to ensure compliance with the performance measures in Table 9 and Table 10, and manage or remediate any impacts and/or environmental consequences to meet the rehabilitation objectives in condition B76;	Extraction Plan
	(g) include a:	
	…(iv) Heritage Management Plan which has been prepared in consultation with Heritage NSW and relevant stakeholders for heritage items which provides for the management of potential environmental consequences of the proposed second workings on Aboriginal cultural heritage and historic heritage values and includes all requirements under conditions B54 to B57 inclusive and having regard to the subsidence impact performance measures in Table 9;	Extraction Plan
	Biodiversity Management Plan which: • has been prepared in consultation with BCD, in accordance with the Biodiversity Assessment Operational Manual: Stage 2 (BCD 2019c); • establishes baseline data for threatened species, populations and their habitats and riparian vegetation within the subsidence area and adjacent to Saddlers Creek and Saltwater Creek in the vicinity of the development, including water table depth, vegetation condition, stream morphology and threatened species habitat; • provides for the adaptive management of potential impacts and environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species, populations and their habitats, EECs/CEECs and GDEs; and • provides for the active management of identified populations or previously recorded locations of Diuris tricolor within the subsidence area;	This BMP
C9	The Applicant must not undertake second workings until the relevant Extraction Plan is approved by the Planning Secretary.	1.2
C10	The Applicant must implement the Extraction Plan as approved by the Planning Secretary.	1.2
C13	The Applicant must pay all reasonable costs incurred by the Department to engage a suitably qualified, experienced and independent person/s to review the adequacy of any aspect of an Extraction Plan.	2.3

Clause	Requirement	Section of Plan
E4	The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and performance measures in this consent. Any exceedance of these criteria or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.	3.3, 4.2, 4.3
	Where any exceedance of these criteria or performance measures has occurred, the Applicant must, at the earliest opportunity: (a) Take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur; (b) Consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and (c) Implement reasonable remediation measures as directed by the Planning Secretary.	4.4
E5	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: (a) a summary of relevant background or baseline data;	2.4
	(b) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	2.1, 3.3 3.3, Table 12
	(c) any relevant commitments or recommendations identified in the document/s listed in condition A2(c);	2.2, Appendix 2
	(d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	3.3
	(e) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to condition E5(c);	4.1, 4.2
	(f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	3.5
	(g) a program to investigate and implement ways to improve the environmental performance of the development over time;	5.6
	(h) a protocol for managing and reporting any: (i) incident, non-compliance or exceedance of any impact assessment criterion or performance criterion); (ii) complaint; or (iii) failure to comply with other statutory requirements;	4.3 4.5 4.3
	(i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and	5.2, 5.4
	(j) a protocol for periodic review of the plan. ***Note:*** *The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*	5.1

Clause	Requirement	Section of Plan
E6	The Applicant must ensure that management plans prepared for the development are consistent with the conditions of this consent and any EPL issued for the site	1.2
E7	Within three months of: (a) the submission of an incident report under condition E9; (b) the submission of an Annual Review under condition E11; (c) the submission of an Independent Environmental Audit under condition E13; (d) the approval of any modification of the conditions of this consent (unless the conditions require otherwise); or (e) notification of a change in development phase under condition A13; The suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.	5.1
E8	If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review. Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.:	5.1
E9	The Applicant must notify the Department within 24 hours of becoming aware of an incident. The notification must be made via the NSW planning portal (Major Projects) and address details of the incident including: (a) date, time and location; (b) brief description of what occurred and why it has been classified as an incident; (c) a description of what immediate steps were taken in relation to the incident; and (d) identifying a contact person for further communication regarding the incident.	4.3
E9A	The Applicant must provide the Department with a subsequent incident report in accordance with Appendix 7 (Incident Notification and Reporting Requirements).	4.3
E10	Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non- compliance. The notification must be in writing to compliance@planning.nsw.gov.au and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	4.3

Clause	Requirement	Section of Plan
E13	Independent Environmental Audits of the development must be conducted and carried out in accordance with the Independent Audit Post Approval Requirements (2020) or as updated from time to time and published on the Department's website.	5.3
E17	Before the commencement of construction until the completion of all rehabilitation required under this consent, the Applicant must: (a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website: (i) the documents referred to in condition A2(c) of this consent; (ii) all current statutory approvals for the development; (iii) all approved strategies, plans and programs required under the conditions of this consent; (iv) the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged; (v) minutes of CCC meetings; (vi) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent; (vii) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs; (viii) a summary of the current phase and progress of the development; (ix) contact details to enquire about the development or to make a complaint; (x) a complaints register, updated monthly; (xi) the Annual Reviews of the development; (xii) audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; (xiii) any other matter required by the Planning Secretary; and keep such information up to date, to the satisfaction of the Planning Secretary.	5.4

Development Consent DA 106-04-00

Clause	Requirement	Section of Plan
C2	The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and performance measures in this consent. Where any exceedance of these criteria or performance measures has occurred, the Applicant must, at the earliest opportunity: (a) Take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur; (b) Consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and	4.4

Clause	Requirement	Section of Plan
	(c) Implement reasonable remediation measures as directed by the Planning Secretary.	
C3	Within three months of: (a) the submission of an incident report under condition C5 or C6; (b) the submission of an Independent Environmental Audit under condition C7; (c) the approval of any modification of the conditions of this consent (unless the conditions require otherwise); the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.	5.1
C4	If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review. ***Note:*** *This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.*	5.1
C5	The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Department's Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident	4.3
C6	Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non- compliance. The notification must be in writing via the Department's Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. ***Note:*** *A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.*	4.3
C7	Within one year of approval of Mod 1, and every three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. The audit must: (a) be led by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Planning Secretary; (b) be conducted by a suitably qualified, experienced and independent team of experts (including any expert in field/s specified by the Planning Secretary) whose appointment has been endorsed by the Planning Secretary; (c) be carried out in consultation with the relevant agencies; (d) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent, water licences and mining leases for the development (including any assessment, strategy, plan or program required under these approvals); (e) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals and this consent;	5.3

Clause	Requirement	Section of Plan
	(f) recommend appropriate measures or actions to improve the environmental performance of the development and any assessment, strategy, plan or program required under the abovementioned approvals and this consent; and be conducted and reported to the satisfaction of the Planning Secretary.	
C8	Within three months of commencing an Independent Environmental Audit the Applicant must submit a copy of the audit report to the Planning Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the Planning Secretary.	5.3
C11	Within 3 months of the approval of Mod 1, until the completion of all rehabilitation required under this consent, the Applicant must: (a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website: (i) the documents listed in condition A2(c) of this consent; (ii) all current statutory approvals for the development; (iii) all approved strategies, plans and programs required under the conditions of this consent; (iv) a summary of the current phase and progress of the development; (v) contact details to enquire about the development or to make a complaint; (vi) a complaints register, updated monthly following the receipt of any complaints; (vii) audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; (viii) any other matter required by the Planning Secretary; and (b) keep such information up to date, to the satisfaction of the Planning Secretary	5.4

10 APPENDIX 2 – MAXWELL EIS AND SUPPORTING DOCUMENT COMMITMENTS

Source	Details	Reference
EIS Section 8.25	Measures to mitigate impacts from the Project on biodiversity are outlined in **Table 8-2 Measures to Mitigate and Manage Potential Biodiversity Impacts**. *The mitigation measures in Table 8-2 are summarised below:* • *Presence of a Trained Ecological or Licensed Wildlife Handler* • *Vegetation Clearance Protocol* • *Mine Site Rehabilitation and Revegetation* • *Salvage and Re-use of Material for Habitat Enhancement within the Mine Site Rehabilitation* • *Site Induction* • *Access* • *Feral Animal Management* • *Weed Management* • *Bushfire Management* • *Fencing* • *Speed Limits*	Table 1 3.3.1 1.2, 3.1 Table 9 Table 9 Table 9 3.3.6 3.3.5 3.3.4 3.3.1, 3.3.6, 3.3.7 3.3.8
EIS Section 8.25	In addition, the following measures will be implemented to conserve threatened flora not likely to be impacted by the Project: • Malabar will erect a livestock-proof fence around a 20 m buffer from the *Hunter Valley Weeping Myall (Acacia pendula) Woodland*/*Acacia pendula* population in the Hunter Catchment. The area will be signed 'Environmental Protection Area'. • Malabar will erect a livestock-proof fence around a 20 m buffer from the *Diuris tricolor* records. The area will be signed 'Environmental Protection Area'.	3.3.2
EIS Section 8.25	Biodiversity Offset Strategy - Existing Biodiversity Offsets The existing biodiversity offsets for the Maxwell Infrastructure will be incorporated into the Biodiversity Offset Strategy for the Project.	1.2
EIS Section 8.25	Project Biodiversity Offset Strategy The sub-sections below describe how the Project Biodiversity Offset Strategy will address both Commonwealth and NSW biodiversity offset requirements.	1.2. The biodiversity offset requirements for the Maxwell Underground and Edderton Road Realignment (Conditions B47 to 49 of Development Consent SSD 9526) will be addressed separately in accordance with the NSW Biodiversity Offset Scheme under the Biodiversity Conservation Act 2016 (BC Act). Accordingly, the management of these offset areas does not form part of the scope of this BMP.

11 APPENDIX 3 – PLANNING SECRETARY ENDORSEMENT

Planning, Industry & Environment

Donna McLaughlin
HSE Manager
Maxwell Ventures (Management)PTY LTD
Thomas Mitchell Drive
Muswellbrook, NSW 2333

01/03/2021

Dear Ms McLaughlin

Maxwell Underground (SSD-9526)
Biodiversity Management Plan

I refer to your request (SSD-9526-PA-2) for the Planning Secretary's approval of suitably qualified persons to prepare the Biodiversity Management Plan for the Maxwell Underground (SSD-9526).

The Department has reviewed the nominations and information you have provided and is satisfied that these experts are suitably qualified and experienced. Consequently, I can advise that the Planning Secretary approves the appointment of Colin Driscoll, an independent environmental consultant trading as HUNTER ECO, to be appointed as a suitably qualified and experienced person to assist in the preparation of the Biodiversity Management Plan.

If you wish to discuss the matter further, please contact Charissa Pillay on 02 99955944.

Yours sincerely

Matthew Sprott
Director
Resource Assessments (Coal & Quarries)

As nominee of the Planning Secretary

4 Parramatta Square, 12 Darcy Street, Parramatta 2150 | dpie.nsw.gov.au | 1

Department of Planning and Environment

Our ref: SSD-9526-PA-104

Donna McLaughlin
HSEC Manager
Maxwell Ventures (Management) Pty Ltd
Thomas Mitchell Drive
Muswellbrook NSW 2333

10/08/2023

Subject: Appointment of Suitably Qualified and Experienced Persons

Dear Ms McLaughlin

I refer to your request dated 4 August 2023 seeking the Planning Secretary's endorsement of the following persons as suitably qualified and experienced under Condition C8 of Schedule 2 of SSD-9526:

- Dr James Barbato (subsidence expert);
- Mr Greg Roads (surface water expert);
- Dr Noel Merrick (groundwater expert);
- Dr Colin Driscoll (biodiversity expert);
- Mr Geordie Oakes (Aboriginal cultural heritage expert);
- Mr Josh Peters (overall preparation and review of the Extraction Plan); and
- Ms Donna McLaughlin, Mr James Johnson, Mr Shane Pegg, Mr Tim Britten and Mr Peter Sergeant, Maxwell Mine personnel, would also be involved in the preparation of the Extraction Plan.

The Department has reviewed the nominations and information you have provided and is satisfied that the above persons are suitably qualified and experienced. Accordingly, I can advise that the Planning Secretary endorses the appointment of these persons to prepare the Extraction Plan for the Whynot Seam Panels 1 to 4 of the Maxwell Underground Coal Mine Project.

If you wish to discuss the matter further, please contact Joe Fittell on (02) 4908 8696.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments

As nominee of the Planning Secretary

Department of Planning, Housing & Infrastructure

Our ref: SSD-9526-PA-139

Dominic Brown
Environment and Community Superintendent
Malabar Resources Limited
Thomas Mitchell Drive
Muswellbrook NSW 2333

24/07/2024

Subject: Appointment of Suitably Qualified and Experienced Persons

Dear Mr Brown

I refer to your request dated 15 July 2024 seeking the Planning Secretary's endorsement of the following persons as suitably qualified and experienced under Condition C8 of Schedule 2 of SSD-9526:

- Dr James Barbato (subsidence expert);
- Mr Greg Roads (surface water expert);
- Dr Noel Merrick (groundwater expert);
- Dr Colin Driscoll (biodiversity expert);
- Mr Geordie Oakes (Aboriginal cultural heritage expert);
- Mr Josh Peters (overall preparation and review of the Extraction Plan); and
- Ms Donna McLaughlin, Mr Dominic Brown, Mr James Johnson, Mr Shane Pegg, Mr Tim Britten and Mr Peter Sergeant, Maxwell Mine personnel, would also be involved in the preparation of the Extraction Plan.

The Department has reviewed the nominations and information you have provided and is satisfied that the above persons are suitably qualified and experienced. Accordingly, I can advise that the Planning Secretary endorses the appointment of these persons to prepare the Extraction Plan for the Woodlands Hill Panels 1 to 4 of the Maxwell Underground Coal Mine Project.

If you wish to discuss the matter further, please contact Joe Fittell on (02) 4908 8696.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments

As nominee of the Planning Secretary

Department of Planning, Housing & Infrastructure

Our ref: SSD-9526-PA-143

Donna McLaughlin
Environment, Community and Approvals Manager
Level 26, 259 George Street
Sydney, NSW, 2000

06/02/2025

Subject: Appointment of Experts – Woodlands Hill Seam Panels 1 to 4 Extraction Plan

Dear Ms McLaughlin

I refer to your request dated 7 January 2025 seeking the Planning Secretary's endorsement of the following persons as suitably qualified and experienced under Condition C8 of Schedule 2 of SSD 9526:

- Robert Hayes, Acting General Manager;
- Russel Howarth, Acting Underground Mine Manager; and
- Daniel Cherry, Registered Mine Surveyor.

The Department has reviewed the nominations and is satisfied that the above persons are suitably qualified and experienced. Accordingly, I can advise that the Planning Secretary endorses the appointment of the above persons to prepare the Woodlands Hill Panels 1 to 4 Extraction Plan for the Maxwell Underground Coal Mine Project.

If you wish to discuss the matter further, please contact Jack Turner on 9995 5387.

Yours sincerely

Jack Turner
A/ Team Leader
Resource Assessments

As nominee of the Planning Secretary

12 APPENDIX 4 – CONSULTATION WITH BCD, MSC, BCT AND CPHR

Maxwell has undertaken consultation with NSW government agencies on previous iteration of the BMP for the site. Stakeholder consultation and the outcomes of consultation on the previous iterations are described below. Therefore, the section and cross references in the below table may not align with the current revised version of the BMP.

Table A4-1. Consultation on BMP in 2023

Raised By	Consultation Feedback	Outcome
Biodiversity and Conservation Division	BCD recommends that Section 3.1.3, Table 1 'Performance Criteria for Biodiversity Management Areas' and Table 2. 'Triggers and remedial actions for potential risks to achieving targeted vegetation communities' is amended to include the objective that targeted vegetation endangered ecological communities will be recognisable as those vegetation communities.	**Section 3.1.3**, **Table 1** - 'Performance Criteria for Biodiversity Management Areas' and **Table 5** (*was incorrectly labelled as Table 2*) - 'Triggers and remedial actions for potential risks to achieving targeted vegetation communities' have been amended to include that the targeted vegetation endangered ecological communities will be recognisable as those vegetation communities as detailed in Development Consent SSD 9526 (refer to pages 15, 20 and 36).
	BCD recommends that any High Threat Weeds that can invade and alter native vegetation are controlled, and where possible eradicated from the ecological rehabilitation, and as a maximum kept to <10% cover in the grassland rehabilitation to give ecological rehabilitation the best chance of success.	**Section 3.8** has been amended to include the commitment to eradicate where possible and as a maximum keep to less than 10 per cent cover in the grassland rehabilitation (refer to page 25).
	BCD recommends that Figure 3 'Threatened Flora Species/Endangered Population' is updated to include the *Prasophyllum petilum* record from beside Thomas Mitchell Drive.	**Figure 3** has been updated to include the *Prasophyllum petilum* record from beside Thomas Mitchell Drive (refer to page 11).
	BCD recommends that *Anagallis arvensis* (now *Lysimachia arvensis*) is removed from the table of 'Species Characteristic to Different Vegetation Communities' and is not included in any rehabilitation seed mix.	*Anagallis arvensis* has been removed from **Table 4** – 'Species Characteristic to Different Vegetation Communities' and is not included in any rehabilitation seed mix (refer to page 28).
	BCD recommends that vegetation monitoring is done using the Biodiversity Assessment Method, to be consistent with current best practice.	**Section 4.2.2** has been amended to include that vegetation monitoring will be undertaken using the Biodiversity Assessment Method, to be consistent with current best practice (refer to page 39).
	BCD recommends that the Table of Contents is revised to include the titles and page numbers of figures and tables in the main body of the Biodiversity Management Plan.	The **Table of Contents** has been revised to include the titles and page numbers of figures and tables in the main body of the Biodiversity Management Plan (refer to page 4).
	BCD recommends that minor typographic errors are revised.	Minor typographic errors have been revised including: Page 28 – **Table 1** was corrected to **Table 4**. Page 32 – **Table 2** was corrected to **Table 5**.
Muswellbrook Shire Council	The draft Biodiversity Management Plan has been reviewed. The only change we seek as that the Drayton Wildlife Refuge,	Labels have been added to **Figure 2** for the Wildlife Refuge, Northern Offset Area and Southern Offset (refer to page 7).

Raised By	Consultation Feedback	Outcome
	Northern Offset Area and Southern Offset Area be clearly labelling on Figure 2 - it is a bit ambiguous at present.	
Biodiversity Conservation Trust	What is the proposed covenant type to be used to protect the Northern and Southern Offset areas within the Drayton Wildlife Refuge? The BCT notes that a Wildlife Refuge is not a secure form of in-perpetuity covenant.	The existing and approved offset strategy has been incorporated into this Biodiversity Management Plan and a conservation and biodiversity bond has been provided to DPIE for the continued management of the offsets. No change required to the BMP.
	Weed control targets in Table 1 of the BMP of <20% are not high enough to establish, maintain and protect the Northern and Southern offset areas. The BCT strongly recommends revising these targets to <10% weed cover.	Completion criteria for weed control in **Table 1** has been amended to < 10% (refer to page 18).

Table A4-2. Consultation on BMP in 2024

Raised By	Consultation Feedback	Outcome
Biodiversity, Conservation and Science (BCS) Group – (NSW DCCEEW)	It appears that recommendation no.1 from our previous advice (DOC21/601039-2, 21 August 2021) has not been addressed.	This recommendation was previously addressed. Refer to Table A4-1. No change is required to the BMP.
	The intention of recommendation no. 2 from our previous advice was that high threat weeds be controlled to <10% cover in grassland rehabilitation as an operational goal rather than a completion criteria, as outlined in the revised plan.	This recommendation had been adopted in previous versions of the plan and subsequently approved by DPHI. Notwithstanding, Table 12 of the BMP has been updated to reflect the text in Section 3.3.5 of the BMP.
	The cross references in Table A4-1 do not appear to be correct. It also appears that not all changes to the document since BCD last reviewed it have been captured as tracked changes. This makes it difficult to check how previous issues have been addressed.	An explanatory note has been included prior to Table A4-1 to describe the discrepancies in cross references. Malabar notes that all material edits to the most recently approved BMP have been provided to BCS, and other agencies in tracked changes. Since BCS' last review of the BMP, there have been several revisions to the BMP that did not require consultation with BCS. These revisions have been reviewed and approved by DPHI in accordance with the relevant requirements. As such, any changes to the BMP prior to the most recent approval by DPHI have not been included as tracked changes in this version of the BMP. No change is required to the BMP.

Raised By	Consultation Feedback	Outcome
	Further detail should be added to the salvage, pre-clearance and clearance procedures or if this is outlined in other management plans, they should be provided for review.	Detail on salvage and re-use of natural materials for habitat creation is included in Table 9 of this BMP and is managed through the site ground disturbance permit procedure (see section 3.3.1 of the BMP). Similarly, detail of the pre-clearance and clearance processes are provided in Table 9 and Sections 3.3.1 & 3.3.2 of the BMP. No change is required to the BMP.
Muswellbrook Shire Council	1. Section 3 of the BioMP describes the strategies to manage remnant vegetation onsite which includes weed, pest and erosion control; stock control and restricted access, in the three offset areas • Drayton Wildlife Refuge; • Northern Offset Area; and • Southern Offset Area. It is encouraging to see continuation of existing controls in place in the Drayton Wildlife Refuge. It is noted that natural vegetation succession is encouraged for the re-establishment of vegetation. Staff encourage active regeneration in this section with a diverse range of local provenance stock and genetic diversity if regular monitoring finds that natural vegetation succession is not occurring.	Maxwell Infrastructure Biodiversity Offset Areas will be adaptively managed using the Trigger Action Response Plan (TARP) in Table 12. If potential threats to regeneration activities are triggered, action will be undertaken in accordance with requirements in the TARP. No change is required to the BMP.
	2. Within the Northern Offset Area, it is noted that protecting existing native vegetation and encouraging natural regeneration is the approach for management. Staff are encouraged to see that selective planting may occur in areas where natural recruitment is unlikely to occur. We would encourage the use of local provenance stock and genetic diversity in this case.	In accordance with Section 3.1.2 of the BMP, Malabar has committed to selective planting in areas devoid of canopy cover. No change is required to the BMP.
	3. It is disappointing to note that the Southern Offset area does not appear to be of any ecological significance in its present state (see Figure 1 (Not attached here)). Aerial imaging of this site reveals that the area is already impacted by mining and its proximity to mining activities may result in no ecological gains. The proximity to mining activities suggests that any established wildlife corridors in this area may fail and could result in animal and vehicle interactions.	Malabar notes that Section 3.1.3 of the BMP details that the Southern Offset Area is currently being replanted to establish a woodland ecosystem. Malabar is committed to establishing a woodland ecosystem and undertakes regular ecological and rehabilitation monitoring to measure the success of the rehabilitation towards the Rehabilitation Objectives for the Southern Offset Area as detailed in the Rehabilitation Management Plan No change is required to the BMP.

Raised By	Consultation Feedback	Outcome
Muswellbrook Shire Council (Continued)	4. In the Southern Offset area, staff request including the Grey-headed Flying Fox on the list of threatened fauna for which habitat and foraging resources are established and/or establishing suitable habitat for this species. This would align with Figure 6 of the BioMP, whereby DPE surveyed a Grey-headed flying fox in this area in 2022. In 2005, flying foxes (Grey-headed and Little Red) established a camp at Muscle Creek and a section of the Hunter River on land owned by MSC and the Australian Rail Track Corporation (ARTC). This camp is located near residential areas, a caravan park, and public facilities including walkways, recreational areas, sporting fields, clubs, hotels, and the local hospital, which are the main concerns for the community. Their proximity to residents and businesses also increases the risk of human-flying fox interactions. Many residents and businesses fail to understand the importance of flying foxes to local ecosystems, particularly their role in providing ecosystem services such as pollination. Muswellbrook Shire Council Page 3 of 4 Flying-foxes predominantly roost in trees within a riparian zone and legislative requirements limit disturbances to these threatened species and their habitat. It would be ideal to establish suitable habitat in areas outside the current camp locations, as research suggest camps can be encouraged to move out of urban areas if there is suitable habitat nearby. Establishing habitat and foraging resources for flying foxes in the Southern Offset may attract flying foxes away from residential areas and lead to less interactions with humans. It is noted that many of the species included in Table 11 would meet this request. Staff request further consultation on this matter and acknowledge that consultation may need to occur with the nearby horse studs.	As described in the BMP, Maxwell will establish, maintain and protect the Southern Offset Area in the long-term so that the targeted vegetation endangered ecological communities will be recognisable as those vegetation communities detailed in the BMP and in Development Consent SSD 9526. In addition to the target vegetation endangered ecological communities, the Southern Offset area will also have benefits for many other species due to its management and conservation. Malabar will consider opportunities to establish habitat for threatened species and will undertake all detailed, specific and comprehensive management within the Southern Offset Area as required by the Development Consent SSD 9526 and BMP once approved. No change is required to the BMP.
	5. Staff would like to see further weed control efforts in the Southern Offset area.	Malabar is committed to an existing annual weed control program which includes the Southern Offset Area. No change is required to the BMP.
	6. Council would like to see ecological community monitoring occurring at reference sites in conjunction with fauna monitoring to confirm that woodland rehabilitation is similar to the ecological community at the reference site and therefore able to support equivalent wildlife.	Ecological monitoring and fauna monitoring are both undertaken at reference sites to confirm rehabilitation is similar and progressing towards the relevant objectives. Section 4.2.2 of the BMP has been updated to specify this occurs.

Raised By	Consultation Feedback	Outcome
Muswellbrook Shire Council (Continued)	7. It is noted that Saddlers Creek traverses the Southern Offset and already features some area of erosion. Staff would like to see monitoring of this erosion on a bi-annual basis until groundcover has re-established.	Monitoring of erosion in offset areas is undertaken annually. Outcomes of the erosion inspection are assessed against the TARP within the BMP. Any triggers against the TARP will prompt for remedial action as required. In accordance with the TARP responses, Malabar will consider increasing monitoring frequency should the TARP trigger such action. No change is required to the BMP.
	8. In relation to the area of Conventional Subsidence, Section 3.1.4 of the BioMP states that there is predicted to be 'Negligible impacts on threatened species, populations or communities due to remediation of subsidence cracking' (Table 8) and that 'flora and fauna levels and quality should continue to be monitored' (page 30). However, the BioMP does not outline any monitoring in the area of Conventional Subsidence with monitoring proposed to occur only in the Offsets. It is understood that subsidence can lead to soil erosion, causing the loss of topsoil essential for plant growth and increased sedimentation in waterways. It can also stress or kill vegetation by disrupting root systems or altering soil conditions. Ecological monitoring in the subsidence area should occur to monitor impacts of subsidence and determine appropriate mitigation measures.	In accordance with the Maxwell Underground Land Management Plan, Malabar is committed to monthly visual and survey monitoring of subsidence impacts. This monitoring also assesses any impact to vegetation in these areas. No change is required to the BMP.
	9. The area of Conventional Subsidence includes considerable stands of threatened ecological communities listed under the Biodiversity Conservation Act 2016, including Ironbark – Grey Box Grassy Woodland (PCT 1691), Slaty Box Shrubby Woodland DNG (PCT 1655) and White Box – Ironbark – Red Gum Shrubby Forest DNG (PCT 1606). Whilst these areas may be offset under State legislation, Staff would like to see that these areas are monitored and improved. Especially considering that some of these areas are within the Maxwell Biodiversity Stewardship Site. Council would like to see further investigation into planting local provenance stock in this area to arrest further subsidence and extend the wildlife corridor in this area. This would assist the proponent to meet conditions B51 c) and h) iii) of SSD 9526.	Section 3.3 and Section 3.3.9 of the BMP have been developed to address the requirements of SSD 9526, Conditions B51 c) and h) iii) respectively. Furthermore the Biodiversity Stewardship Agreement (BSA) has been prepared and approved in consideration of the Biodiversity Offset requirements detailed in development Consent SSD9526. The BSA specifically focused (as required) on the species significantly impacted by the development, and includes management obligations that have been recommended and endorsed by the NSW Nature Markets and Offsets. The BSA has been approved and has a specific management plan that describes the monitoring of the BSA site. No change is required to the BMP.

Raised By	Consultation Feedback	Outcome
Muswellbrook Shire Council (Continued)	10. For completeness and transparency, Staff suggest that it may be appropriate to include management measures for the Maxwell Stewardship Site in the BioMP, allowing the community to review and understand the management strategies for these sites.	Management requirements of the BSA site are identified under a separate management plan as part of the stewardship agreement. There is no requirement for Malabar to include the management measures specific to the BSA within the BMP. Malabar intend to keep the BMP and the requirements of the BSA Management Plan separate to avoid any confusion or duplication. No change is required to the BMP.
	11. Staff are satisfied with all other aspects proposed.	Noted.

Table A4-3. Consultation on BMP in 2025

Raised By	Consultation Feedback	Outcome
Conservation Programs, Heritage & Regulation Group (CPHR) – NSW DCCEEW	CPHR reviewed version 6 of the BMP dated 3 April 2025 and had no additional comments.	Noted.
Muswellbrook Shire Council	1. Staff are pleased to note Malabar's commitment to exploring opportunities for establishing habitat for threatened species within the Southern Offset Area. Staff look forward to continued consultation on this matter.	Noted.
	2. Staff are pleased to note that there is a commitment to ecological and fauna monitoring being undertaken at both rehabilitation and reference sites to confirm that the rehabilitation is progressing towards a similar ecological community and supporting equivalent wildlife, and that the BMP has been updated to reflect this.	Noted.
	3. Staff are pleased to note that Malabar will consider increasing the frequency of erosion monitoring in the Saddlers Creek area of the Southern Offset if a trigger against the TARP prompts this.	Noted.

Table A4-4. Consultation on BMP in 2026

Raised By	Consultation Feedback	Outcome
CPHR	1. Provide detail of intended methods to compare baseline datasets to monitoring datasets within the BMP. 2. Include specific quantitative biodiversity performance measures, triggers, and actions in the TARP that directly relate to biodiversity monitoring.	The BMP, including the TARP, has been prepared by suitably qualified and experienced biodiversity specialists endorsed by the Planning Secretary (Dr Colin Driscoll of Hunter Eco). The BMP has also been subject to multiple rounds of agency consultation and regulatory review and has previously been approved by DPHI. The current revision of the BMP has been prepared to support an amendment to the approved Woodlands Hill Longwalls 1 to 4 Extraction Plan which does not introduce any new or additional biodiversity impact pathways beyond those already assessed and approved under the existing framework. The TARP was developed having regard to the performance measures, identified biodiversity risks and monitoring program for the site. Where appropriate, quantitative and measurable triggers have been adopted including thresholds relating to vegetation species diversity, native fauna abundance and diversity, weed cover, erosion extent and canopy and understorey establishment. Where quantitative triggers are not considered relevant, a qualitative approach to triggers is employed. These triggers are assessed against established analogue sites through the ecological monitoring program and are linked to management responses where monitoring identifies performance criteria are not being achieved. The recommendation to introduce additional, species-specific performance indicators and TARP triggers is not considered necessary or proportionate to the nature of the amended mine plan. Specialist biodiversity assessments undertaken for both the Whynot Seam Panels 2 to 5 and Woodlands Hill Longwalls 1 to 4 Extraction Plans concluded that subsidence impacts on threatened flora, threatened fauna and threatened ecological communities would be negligible, with no additional biodiversity mitigation measures required beyond those already incorporated into the approved BMP. In relation to the amended mine plan, the Biodiversity Review (Technical Report 4; letter dated 5 May 2026) considers the threatened specific in the extraction area (i.e. the Pine Donkey Orchid, Southern Myotis, Hunter Valley Delma and Squirrel Glider) and concluded that the amended mine plan would not result in impacts to these species or their habitats and that no changes to existing biodiversity monitoring or management are required. Accordingly, the existing biodiversity monitoring framework and TARP remain appropriate and sufficient to manage the negligible biodiversity risks associated with the amended mine plan.

13 APPENDIX 5 – DPHI CORRESPONDENCE

Planning, Industry & Environment

Mrs Donna McLaughlin
HSEC Manager
Maxwell Ventures (Management) PTY LTD
Thomas Mitchell Drive
Muswellbrook New South Wales 2333

02/09/2021

Dear Mrs McLaughlin

Maxwell Underground - (SSD-9526)
Biodiversity Offset Credit Retirement Time Extension

I refer to your request (SSD-9526-PA-35) and letter submitted to the Department on the 13 August 2021, for a time extension to retire Biodiversity Offset Credits as required under the conditions of consent for the Maxwell Underground - Biodiversity Offset Credit Retirement (SSD-9526-PA-35).

I understand that Maxwell Underground has prepared a draft Biodiversity Stewardship Application for a land-based offset property. The proposed offset property provides sufficient credits to satisfy the biodiversity credit requirements in Conditions B47 and B48 of Development Consent SSD 9526.

I note that Maxwell Underground met with NSW Biodiversity Conservation Trust (BCT) on 27 July 2021. BCT have advised that the first review of the draft application would take two weeks and a full assessment of the application may take up to six months. Therefore, the credits are expected to be formalised and retired before the 30 June 2022.

Accordingly, I grant an extension of time until 30 June 2022 to finalise the Biodiversity Offset Credit Retirement application.

If you wish to discuss the matter further, please contact Charissa Pillay on 02 99955944.

Yours sincerely

Carl Dumpleton
A/Director
Resource Assessments (Coal & Quarries)

As nominee of the Secretary

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Planning, Industry & Environment

Donna McLaughlin
Manager Environment& Community
Maxwell Ventures (Management) Pty Ltd
Thomas Mitchell Drive
Muswellbrook, NSW, 2333

20/09/2021

Dear Mrs. McLaughlin

Maxwell Underground (SSD-9526)
Biodiversity Credit Requirements

I refer to the Biodiversity Credit Requirements letter submitted in accordance with Condition B49 of Schedule 2 of the Development Consent for the Maxwell Underground Mine (SSD-9526).

The Department has carefully reviewed the document and is satisfied that it meets the relevant requirements of condition B49. Accordingly, the Secretary has approved the request to reduce biodiversity credit requirements under Condition B49 as folows:

1. The Department (including the Biodiversity and Conservation Division) is satisfied that the offset requirements in Conditions B47 and B48 of Schedule 2 for *Pterostylis chaetophora*, *Ozothamnus tesselatus* and *Thesium australe* can be reduced to zero for this project.

2. However, the 0.3 hectares of habitat considered suitable for *Diuris tricolor* and *Prasophyllum petilum* within the Stage One development footprint has not been surveyed in full compliance with *Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method* (BCD, 2020). Therefore, the Table 6 'Biodiversity credit requirements (Stage One)' required for *Diuris tricolor* are changed from 1,474 credits to 5 credits, and for *Prasophyllum petilum* are changed from 1,114 credits to 6 credits.

3. The credit requirements for *Diuris tricolor* and *Prasophyllum petilum* in Table 7 'Biodiversity credit requirements (Stage Two)' can be changed to zero.

If you wish to discuss the matter further, please contact Wayne Jones on 6575 3406 or Robert Gibson of the Biodiversity and Conservation Division on (02) 4927 3154.

Yours sincerely

JEvans

Jessie Evans
Director
Resource Assessments (Coal & Quarries)

As nominee of the Secretary

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Department of Planning and Environment

Our ref: SSD-9526-PA-67

Donna McLaughlin
HSEC Manager
Maxwell Ventures (Management) Pty Ltd
Thomas Mitchell Drive
Muswellbrook, NSW 2333

14/09/2022

Subject: Extension Request for Biodiversity Credit Retirement

Dear Ms. McLaughlin

I refer to your request for an extension of time under Condition B47 of SSD-9526 to retire biodiversity credits required by Conditions B47 and B50A of the Development Consent for the Maxwell Coal .

The Department notes your consultation with the Credit Supply Taskforce in your letter dated 26 August 2022. We understand an extension of time is sought:

- to obtain legal advice on whether to separate the Biodiversity Steward Agreement (BSA) applications for each property
- to allow time for Credit Supply Taskforce to continue to process the BSA application in its current form in parallel to seeking legal advice.

The Department notes that the Credits Supply Taskforce anticipates finalising the BSA by the end of the year.

The Secretary has granted an extension of time until 28 February 2023 for the retirement of biodiversity offsets required under the consent.

If you wish to discuss the matter further, please contact Charissa Pillay on 02 99955944.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments

As nominee of the Secretary

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Locked Bag 5022, Parramatta NSW 2124

Department of Planning and Environment

Our ref: SSD-9526-PA-88

Donna McLaughlin
HSEC Manager
Maxwell Ventures (Management) Pty Ltd
Thomas Mitchell Drive
Muswellbrook, NSW 2333
DATEWILLBEINSERTEDHERE

Subject: Extension Request for Biodiversity Credit Retirement

Dear Mrs. McLaughlin

I refer to your letter dated 21 December 2022 requesting an additional extension of time for the retirement of biodiversity offset required under Condition B47, Condition B50A, and condition B50B.

The Secretary previously granted an extension of time until 28 February 2023 and notes the reasons justifying a further extension request.

In view of the Credit Supply Taskforce's timeframe for finalising the Biodiversity Stewardship Agreement by 28 February 2023, a further extension is needed to process the retirement of the relevant credits.

The Department has been in direct contact with the NSW Credits Supply Taskforce regarding the likely timing of this relinquishment. Given the work still to be undertaken, it was discussed that a 6-month extension of time would be more appropriate than the proposed 3-month extension.

Accordingly, the Secretary has granted an extension of time until 30 August 2023 for the relinquishment of biodiversity offset credits required for the Maxwell Undergorund Coal Mine Project.

If you wish to discuss the matter further, please contact Charissa Pillay on 02 99955944.

Yours sincerely

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

Department of Planning and Environment

Our ref: SSD-9526-PA-103

Donna McLaughlin
HSEC Manager
Maxwell Ventures (Management) Pty Ltd
Thomas Mitchell Drive
Muswellbrook NSW 2333

16/08/2023

Subject: Extension Request for Biodiversity Credit Requrement

Dear Ms McLaughlin

I refer to your request for an extension of time under Condition B47 of SSD-9526 to retire biodiversity credits required by Conditions B47, B50A and B50B of the Development Consent for the Maxwell Coal Underground Mine Project.

The Department notes your ongoing consultation with the Credit Supply Taskforce and continuing effort to retire the biodiversity creidts required by the Development Consent. The Department understands that the Credit Supply Taskforce has indicated that the Biodiversity Stewardship Agreement (BSA) will likely be finalised in early October 2023.

Notwithstanding, Malabar is seeking additional time to allow for retirement of the required credits once the BSA is established.

Accordingly, the Planning Secretary has granted an extension of time until **14 December 2023** for the retirement of credits required under SSD 9526.

If you wish to discuss the matter further, please contact Joe Fittell on (02) 4908 8696.

Yours sincerely

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

14 APPENDIX 6 – REGULATORY APPROVAL

Department of Planning, Housing and Infrastructure

NSW GOVERNMENT

Our ref: SSD-9526-PA-207

Donna Tiananga
Environment, Community and Approvals Manager
Maxwell Ventures (Management) Pty Ltd
Thomas Mitchell Drive
Muswellbrook, NSW 2333

25/09/2026

Subject: Maxwell Underground Coal Mine – Approval of amended Extraction Plan for Woodlands Hill Longwalls 1 to 4

I refer to the amended Extraction Plan for the Woodlands Hill Longwalls 1 to 4, which has been prepared in accordance with condition C8 of Schedule 2 of SSD 9526 for the Maxwell Underground Mine.

On 26 September 2025 the Department approved an Extraction Plan for Woodlands Hill Longwalls 1 to 4 (original Extraction Plan).

The Department notes that the amended Extraction Plan has been prepared following additional mine planning and geotechnical review to optimise resource recovery and improve mine economics.

The Department notes that the Water Management Plan (which applies to the whole development) has also been updated to include the transfer of tailings and coarse rejects from Mt Arthur Coal (including the transfer of return water).

The Department has carefully reviewed the amended Extraction Plan (including its sub-plans) and is satisfied it addresses the relevant requirements of the development consent SSD 9526.

The Department considers residual matters related to groundwater modelling and stream health can be addressed prior to secondary extraction of Woodlands Hill Longwall 3 and 4 (WHLW3 and WHLW4) through conditions of approval.

Accordingly, the Planning Secretary approves the Extraction Plan and management plan documents listed in **Table 1** below subject to the conditions in **Table 2**.

Table 1 | Approved Extraction Plan Documents

Document Name	Document No./Version/Date
Maxwell Underground Mine – Amended Woodlands Hill Longwalls 1 to 4 Extraction Plan	Document No.: MXC_MP_EC_27 Dated: May 2026
Water Management Plan	Document No.: MXC_MP_EC_08 Version: 7.2 Dated: September 2026
Land Management Plan	Document No.: MXC_MP_EC_29 Version: 3 Dated: May 2026
Biodiversity Management Plan	Document No.: MXC_MP_EC_09 Version: 7.1

Document Name	Document No./Version/Date
	Dated: July 2026
Heritage Management Plan	Document No.: MXC_MP_EC_03 Version: 4 Dated: May 2026
Built Features Management Plan	Document No.: MXC_MP_EC_31 Version: 3 Dated: May 2026
Public Safety Management Plan	Document No.: MXC_MP_EC_28 Version: 3 Dated: May 2026
Subsidence Monitoring Program	Document No.: MXC_MP_EC_32 Version: 3 Dated: May 2026
Coal Resource Recovery Plan	Document No.: MXC_MP_EC_33 Version: 3 Dated: May 2026

Table 2 | Conditions of approval

Condition number	Condition
1	Prior to the extraction of WHLW3 the Applicant must update the groundwater model for the amended WHLW3 and WHLW4 panel widths and demonstrate the predictions of the updated model are generally consistent with the conclusions in *Maxwell Underground Mine, Revision of Woodlands Hill Seam Extraction Layout* (HydroAlgorithmics, April 2025).
2	Prior to the extraction of WHLW3, the Applicant must update the channel stability and stream health monitoring program and the Channel Stability and Riparian Ecosystem Health Trigger Action Response Plan in the Water Management Plan to identify existing and high-risk areas of bed degradation and channel erosion, and identify remediation measures to address impacts from secondary extraction.

You are reminded that if there are any inconsistencies between the approved plans listed above and the conditions of consent, the conditions prevail. Please ensure that you make the documents publicly available on the project website at the earliest convenience.

Should you wish to discuss the matter further, please contact Jack Turner on 9995 5387.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments

As nominee of the Planning Secretary