MNES Annual Report

Olive Downs Coking Coal Project

Prepared for Pembroke

February 2025

MNES Annual Report

Olive Downs Coking Coal Project

Pembroke

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February 2025

Version	Date	Prepared by	Reviewed by	Comments
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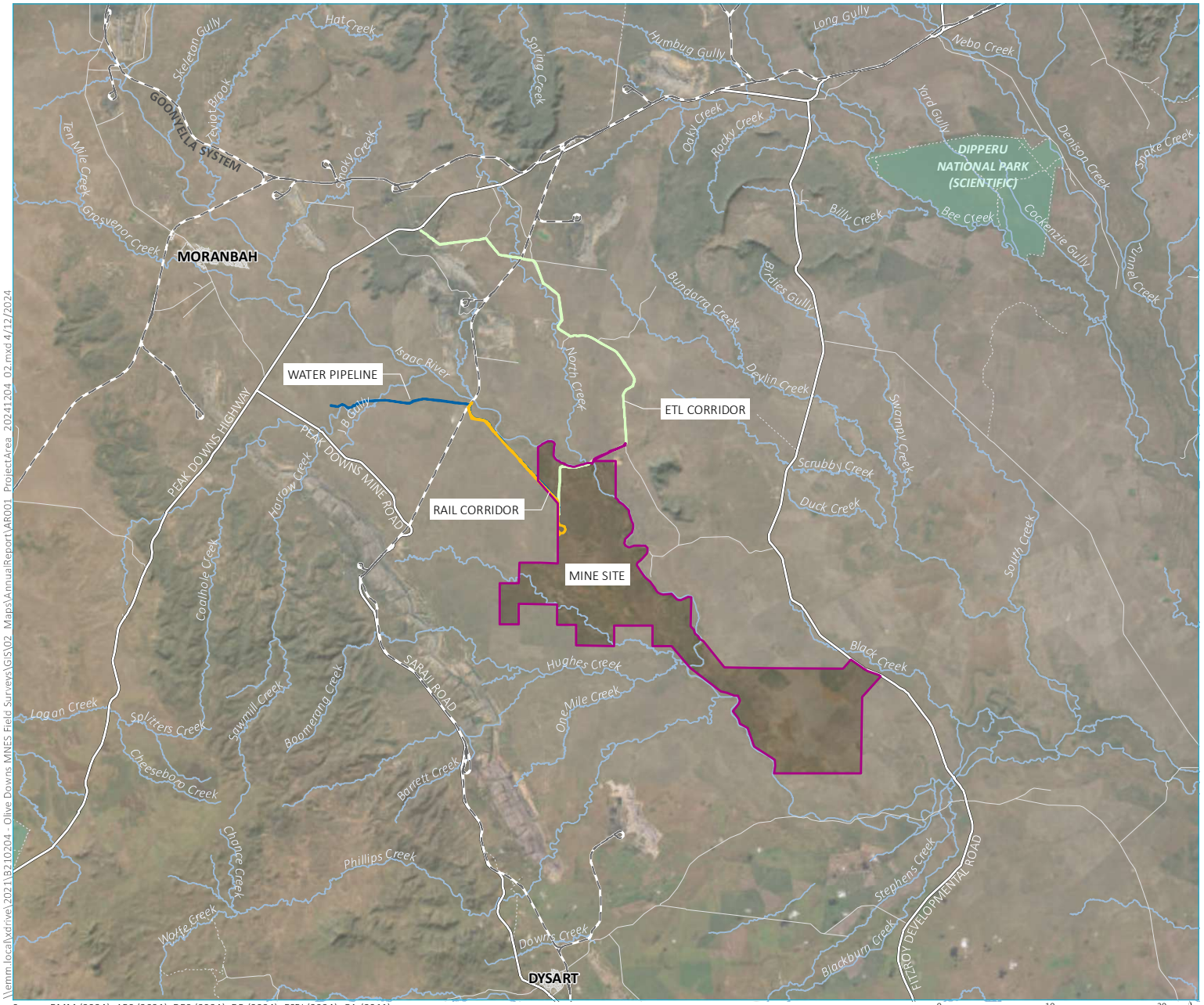
1 Introduction

The purpose of this Annual report is to summarise all management, monitoring and corrective actions that have been completed in relation to the Olive Downs impact site. In accordance with the MNES Management Plan (hereafter MMP) Section 7.1 (EMM 2022), an annual report is to be prepared at the end of each calendar year. This is the first annual report prepared and covers all information relating to the impact site since commencement of Stage 1 operations to present. This report summarises all monitoring that has been completed in this time, including a summary of all results and assessment of these results against performance criteria and five-year interim milestones. The report will also summarise any issues identified during the first few years and any interventions or corrective actions implemented.

This annual report will also summarise findings that will be included in the 5-year interim report, which is another compliance report that Pembroke is required to submit to DEECCW in 2025.

The 5-year interim report will be prepared in 2025 to track the first five years of monitoring and management actions. It will include a more detailed assessment against the performance criteria and five-year interim milestones set out in Stage 1 of the project. Any corrective actions implemented and any adaptive management learnings will be discussed.

The Olive Downs mine project area is shown on Figure 1.1 and the Issac River retained corridor subject to ongoing monitoring is shown in Figure 1.2.



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Project area

Olive Downs Coking Coal Project
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Figure 1.1

EMM
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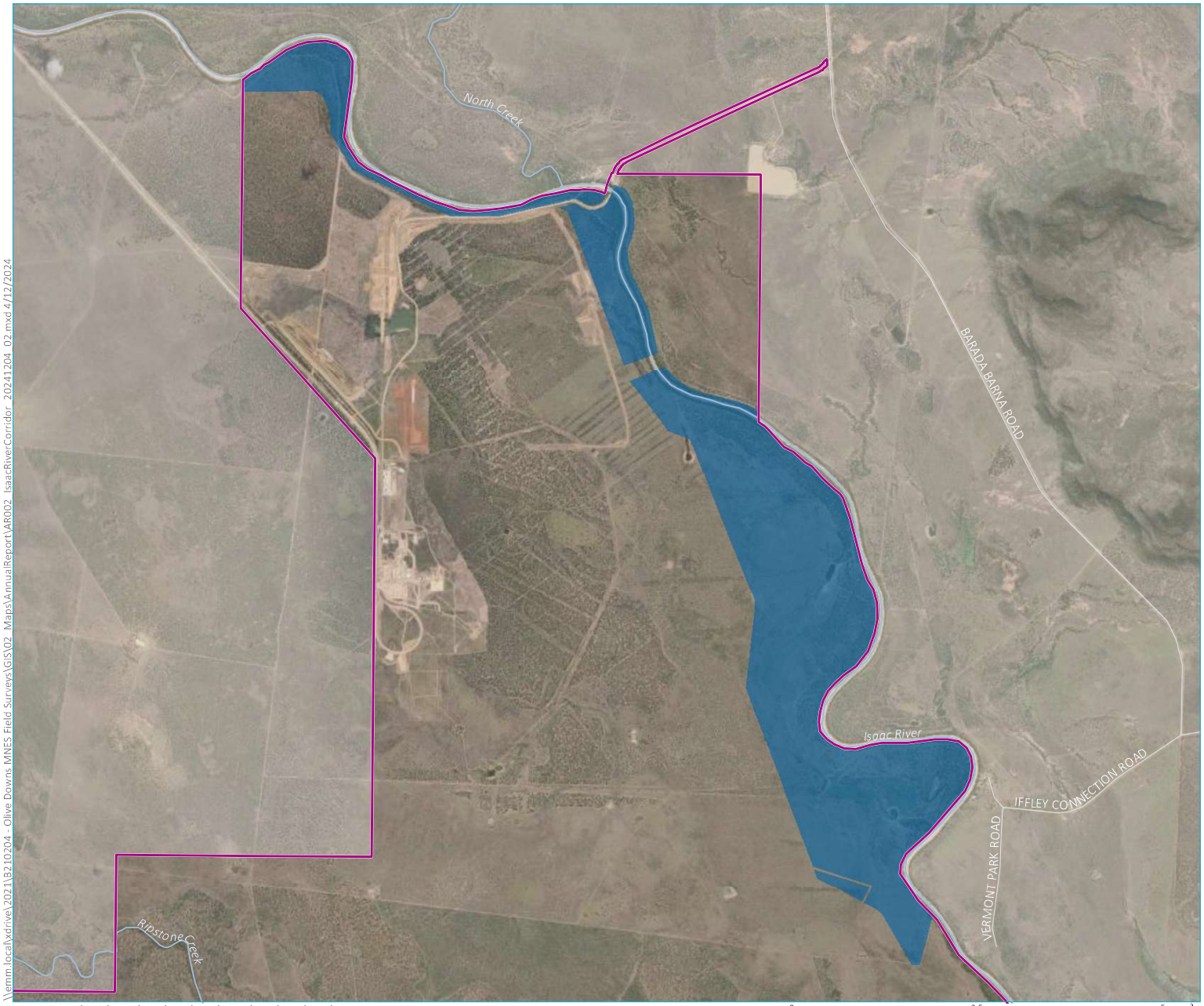

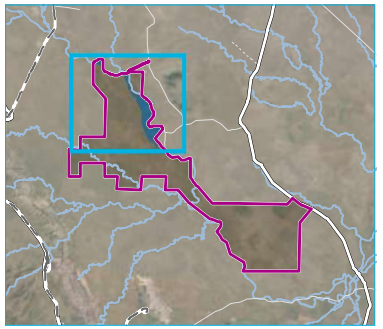

KEY

- Project area (mine site)
- Isaac River corridor

Existing environment

- Rail line
- Major road
- Minor road
- Vehicular track
- Named watercourse

Isaac River corridor

Source: EMM (2024); DES (2024); DR (2024); ESRI (2024); GA (2011)

0 2.5 5 km

GDA 1994 MGA Zone 55

N

Olive Downs Coking Coal Project
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Figure 1.2

creating opportunities

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2 MNES Management Plan

In accordance with EPBC approval (EPBC 2017/7867) the purpose of the MNES Management Plan (MMP) is to demonstrate how impacts on the 'listed threatened species and community' and their habitat, will be avoided, mitigated, and managed. The applicable 'listed threatened species and community' referenced in the approval are:

- Koala (*Phascolarctos cinereus*)
- Greater Glider (*Petauroides volans*)
- Squatter Pigeon (Southern) (*Geophaps scripta scripta*)
- Ornamental Snake (*Denisonia maculata*)
- Australian Painted Snipe (*Rostratula australis*)
- Brigalow threatened ecological community (Brigalow TEC).

The environmental outcomes sought to be achieved through implementation of the MMP include the following:

- Avoid and minimise injuries or mortality of MNES species during all Project phases, in particular the vegetation clearing phase.
- Disturbance does not occur to MNES habitats and Brigalow TEC outside of approved Project stages.
- MNES habitat areas outside of approved Project stages will be managed to maintain habitat quality and utilisation by MNES on land as part of Stage 1 owned by Pembroke.
- Connectivity is maintained for Greater Glider and Koala. Connectivity structures are installed in proximity to habitats including along riparian corridors of Isaac River. Connectivity structures to be installed include:
    a) Greater Glider rope crossings
    b) Koala exclusion fencing in combination with Koala exit devices
    c) bridge crossing of Isaac River facilitating Koala movement underneath the bridge including use of Koala furniture.

3 Species Management Program

Under *Nature Conservation Act 1992* (NC Act) an approved Species Management Program (SMP) was required to allow for the tampering of animal breeding places. The SMP outlines protocols required to achieve a consistent approach in the consideration of the impact of the Project on all identified animal breeding places (DES 2020). The purpose of a High Risk SMP is to:

- assess the presence of animal breeding places (including to least concern, special least concern (SLC) and critically endangered, endangered, vulnerable and near threatened (CEEVNT) species under NC Act)
- assess the threats to those animal breeding places from the planned activities
- identify management actions that will avoid or minimise impacts on animal breeding places
- establish monitoring and reporting requirements that demonstrate avoidance and mitigation measures are effectively implemented and conservation outcomes are being achieved.

EMM Consulting Pty Ltd (EMM) were commissioned to prepare the High Risk SMP for the Project, and it was originally approved on 12 January 2022 (SMP981). The SMP was then amended and approved on 21 April 2022. The SMP was also consistent with requirements of the MNES Plan pertaining to preclearance surveys.

4 Extent of clearing in Stage 1

4.1 Preclearance survey

As vegetation clearing and earthworks are required to support mine construction for Stage 1 of the Project including associated infrastructure, such as a rail corridor and water pipeline, there was potential for the disturbance to MNES species. Subsequently, preclearance surveys were required by both the MMP and SMP. Section 5 of the MMP outlines that the purpose of preclearance surveys was to identify the presence of MNES species in the proposed clearing area and implement mitigation actions where required. The approved clearing area and areas cleared are shown in Figure 4.1. Preclearance survey reports are provided in Appendix A.

4.1.1 Targeted MNES survey

i Arboreal mammals

Nocturnal searches for arboreal mammals (Greater Glider and Koala) were undertaken, with spotlights, in vegetated areas within the survey area. This involved walking through areas of habitat with the spotlights and shining them into the canopy to identify the eye-shine of animals. Additional effort was undertaken in areas where Greater Gliders and Koalas were known to be present or where higher density of suitable hollows for Greater Glider were identified during prior hollow bearing tree surveys. Where arboreal mammals were identified, the tree they were occupying was tagged with a pink cross in order for the Fauna Spotter Catcher's (FSC) to be aware of an animal's potential presence within a hollow, as well as being captured on in-field GIS software. Additionally, suitable hollow bearing trees from prior hollow bearing tree surveys had also been captured on in-field GIS software to guide the FSC in the breeding place survey immediately prior to clearing.

The FSC personnel also carried out separate habitat assessments and demarcation of potential animal breeding places prior to clearing as part of the scope of their survey methodology. In particular, this was to identify trees that contained hollows that required checking by an elevated work platform (EWP) prior to clearing, as part of the sequential clearing process outlined in the impact management plan of the High Risk SMP (EMM 2021).

Suitable hollow bearing trees were demarcated in the field with spray paint. Habitat trees and other breeding places were also marked during diurnal survey.

ii Ornamental Snake

Nocturnal searches were undertaken for Ornamental Snake, with spotlights, in areas previously identified as habitat for the species. Surveys involved walking through the habitat while shining the headtorch on the ground in order to spot an active animal. The surveys also included turning over fallen logs to check for Ornamental Snake underneath. Habitat for the Ornamental Snake within the survey area came primarily in the form of gilgai, in both vegetated and non-vegetated areas, where significant soil cracks were formed in heavy clay soils.

Ornamental Snake were also successfully recorded under fallen logs after there had been rainfall and soil cracks had expanded.

4.2 Preparation prior to clearing

Preclearance surveys were required using the following sequence:

1. Clearing footprints are clearly demarcated both on ground and in map form. Demarcation on the ground was done by pegging the footprint out prior to surveys occurring, and the footprint was included on in-field GIS software used by ecologists.

2. Preclearance ecology surveys are then conducted by suitably qualified ecologists/FSCs. The ecologists walked through the proposed clearing areas, including suitable CEEVNT habitat, and recorded any threatened species and active breeding places.

3. Confirmed breeding places or CEEVNT species locations are recorded with GPS coordinates.

4. Spotlighting preclearance surveys target Ornamental Snake (*Denisonia maculata*), Greater Glider (*Petauroides volans*) and Koala (*Phascolarctos cinereus*). Any observations during spotlighting of CEEVNT species are recorded with GPS coordinates.

Nocturnal spotlighting preclearance assessment surveys consisted of spotlighting within the survey area as a whole. This particularly focussed on mapped habitat of the target threatened species, with each area of mapped habitat visited over three consecutive nights to increase the detectability of the species.

4.3 Vegetation and MNES habitat clearing

As outlined in the approval and the MMP, Stage 1 clearing took place in areas containing MNES species and habitat. Clearance of MNES habitat to date in the Stage 1 approved area is summarised in Table 4.1 and has been tracked by Pembroke throughout the clearing.

Table 4.1 MNES habitat clearance during Stage 1

MNES	Disturbance limit as per Condition 2 (EPBC 2017/7867) (ha)	Actual area cleared (ha)
Koala	1099	1040.3
Greater Glider	932.8	913.1
Squatter Pigeon - breeding	810.5	759.3
Squatter Pigeon – foraging	133.8	132.1
Ornamental Snake important habitat	973.9	564.4
Australian Painted Snipe – breeding	16	5.1
Brigalow TEC	0	0

4.4 Hollow bearing trees and Greater Glider

During preclearance surveys and clearing activities, hollow bearing trees present in the clearing footprint were recorded in a Survey 123 form and are shown on Figure 4.2. Also shown on this figure are Greater Gliders captured using EWP during the clearing program (showing capture and release sites). Greater Glider capture and release is discussed in further detail in Section 4.1.

6,888 hollow bearing trees suitable for Greater Glider were recorded in the Stage 1 impact footprint.

4.5 Sequential clearing

Vegetation clearing was conducted using sequential clearing methods, which minimises impacts on native fauna, particularly arboreal fauna which may be using tree hollows. Importantly, all tree hollows identified as potentially suitable for Greater Glider in areas of possible Greater Glider habitat were checked by EWP.

Key steps in phases are summarised below.

4.5.1 Sequential clearing phase 1

- If hollow bearing trees suitable for supporting Greater Glider were present within the Project area, and haven't been checked by the EWP, only understorey vegetation, non-hollow bearing trees and smaller juvenile trees were removed.
- Hollow bearing trees with hollows greater than 5 cm were checked by the EWP. If the hollows are confirmed not to support any fauna species, the tree could be cleared that day of checking. If the EWP has checked hollows ahead of the dozer, then the dozer could remove all vegetation at the same time.
- All trees within the clearing area were thoroughly searched and all large trees that contained obvious or suspected hollows with an entrance diameter equal to or greater than 5-10 cm, were recorded with a GPS and clearly identified with fluorescent pink flagging tape. Basic tree data was recorded at this time including tree species, if the tree is alive or dead, approximate diameter at breast height (DBH) and number of hollows.
- While some tree hollows may be obvious from the ground, not all may be clearly observed due to constraints such as the tree height and dense foliage obstructing the view. In such instances, if hollows could not be clearly seen but were suspected of occurring in potential habitat trees for Greater Gliders, these trees were also recorded as above.
- Any active nests identified were left. The nest was further evaluated and where possible left until eggs have hatched and young vacated. Where a nest needed to be removed this was done in accordance with Section 3.3 of the SMP.

4.5.2 Sequential clearing phase 2

- If an EWP hadn't checked the area, then hollow bearing trees were retained and left overnight to encourage any fauna occupying the hollow to relocate on its own accord. Hollow bearing trees were removed at a later date after they had been checked with the EWP.
- Where individual trees with hollows or habitat trees needed to be retained until a later time, other trees were also retained to allow for fauna to have a corridor, or stepping stones, so they could safely move out of the cleared area to adjacent habitat.
- Trees that supported suitably sized hollows for Greater Glider which were identified and marked during preclearance ecology surveys were inspected. Each hollow was checked by a suitably qualified FSC in an EWP.
- Hollow bearing trees were inspected by the FSC post-felling to ensure no wildlife remained in the hollow. Where practicable fauna was caught, and if deemed uninjured and healthy, released into suitable recipient sites.
- All vegetation clearing was supervised by a suitably qualified FSC.
- If any native fauna was injured, the Pembroke supervisor was notified immediately, and the animal taken by the FSC to a local vet/authorised wildlife carer for treatment. An incident form was filled in and provided to the Pembroke supervisor to record the details and any learnings gained.

- It is important the clearing was done in such a way that arboreal fauna were given the opportunity to disperse from the area once clearing had commenced under their own volition. This required the FSC or site ecologist to identify suitable dispersal corridors to allow fauna to move away from the clearing area into an area of habitat that is being retained. If such areas were required, the FSC clearly demarcated these areas with flagging tape/bunting and ensured all clearing personnel were aware of these areas so they weren't cleared prematurely.

- Any confirmed Koalas were identified by putting flagging tape and/or marking spray on the tree they were in – this included use of the map of tracked Koalas described in Section 4.3. Any nearby trees with overlapping crowns, or those trees that may impact the Koala's tree during felling, were not cleared until the Koala had moved from the area under its own volition. All personnel involved in tree clearing within the vicinity were made aware of the location of any Koalas and any specific management to be implemented until the Koala had moved from the clearing/impact area.

- Trees were felled away from retained areas of vegetation where practicable. Safe corridors were left for displaced fauna to move through into adjacent habitats.

- Micro-habitats such as fallen logs and rocks were moved into adjacent habitat being retained where possible.

4.6 Active searches by fauna spotter catchers

A suitably qualified FSC surveyed each clearing area immediately prior to clearing and was present during clearing. FSCs were required to supervise vegetation clearing, even if the area only supports grasses and shrubs, because the area may support gilgai with Ornamental Snake or fauna residing in the grass such as reptiles and small mammals, or nests for ground nesting species such as Squatter Pigeon.

The active searches were undertaken by a suitably qualified FSC or ecologist to identify and record the presence of any native fauna, and if they have been relocated.

If required, any captured threatened species (excluding Koalas) were relocated to a suitable release site in the Project area away from any disturbance, in accordance with the FSC's rehabilitation permit.

Stockpiled vegetation was also checked by a FSC prior to it being moved, mulched or burnt to ensure impacts to fauna were minimised.

4.7 Staff training

It is essential that all site personnel, including supervisors, were aware of the threatened fauna within the Project area, the potential for environmental impacts to occur to these species and their breeding places, and the management and mitigation measures that were to be followed to avoid, minimise, and mitigate impacts. Pre-start meetings discussed any threatened fauna species or sensitive habitats in proximity to the work area.

FSCs also undertook a pre-start briefing to inform site personnel such as machine operators of fauna and breeding places in the area, values to be avoided and required management measures to be followed that day.

4.8 Post clearing report

A Post-Clearing Report was prepared that included:

- name and qualifications of ecologists that completed preclearance surveys and results

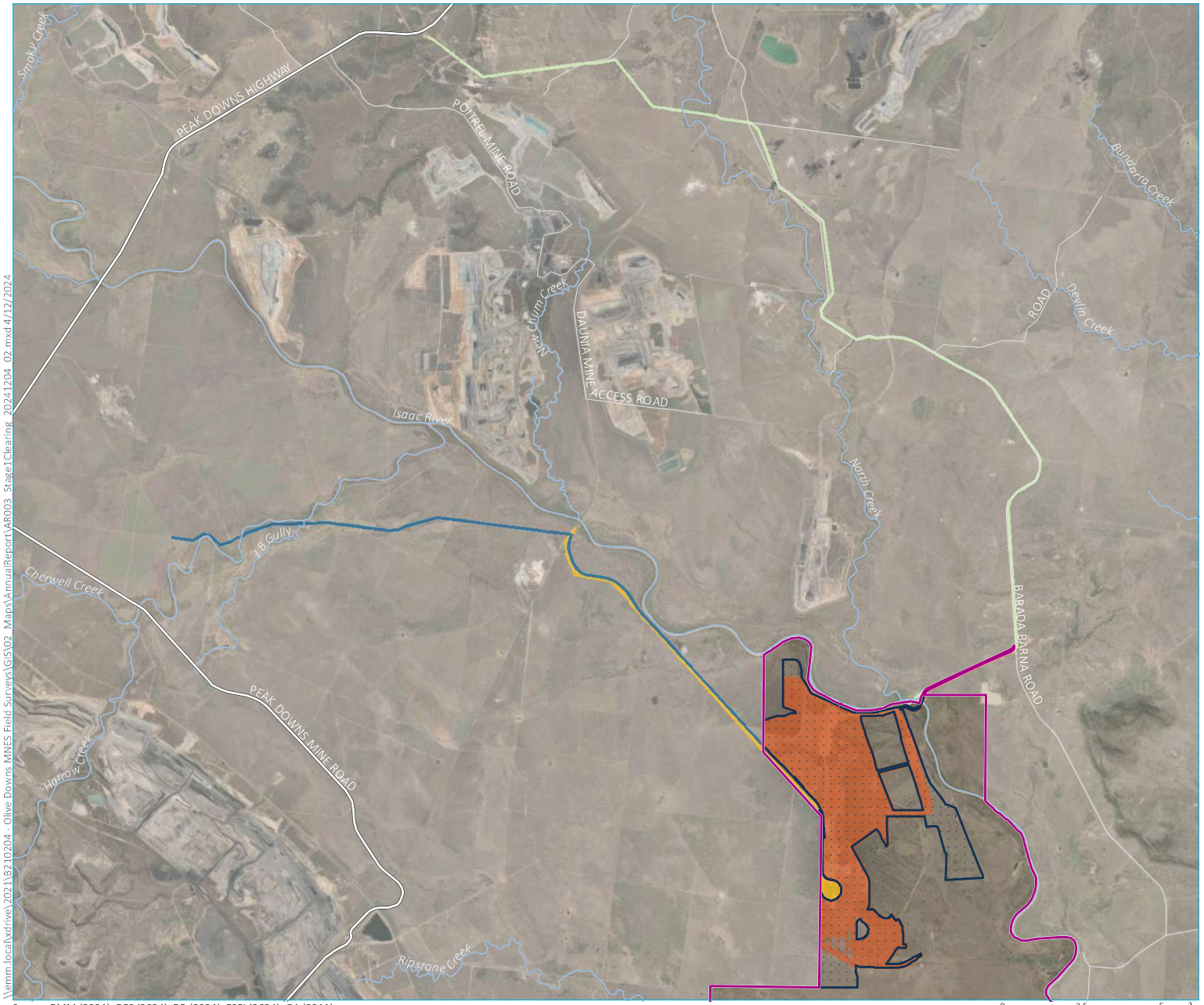
- name and qualifications of FSC/s present during clearing

- assessment of the habitat and handling of fauna
- information on clearing operations, dates, procedures, areas that were cleared
- number and size of hollows contained in trees removed
- live fauna sightings, captures, any releases or injured/shocked wildlife
- any damage to trees to be retained, nests or other fauna habitat features
- injury or mortality of fauna
- photographs of rescued fauna
- records of all fauna rescue events, including locations to where fauna have been relocated.

The post-clearing report is provided as Appendix B.

4.9 CEEVNT observations

All CEEVNT fauna observations during clearing or ongoing monitoring are shown on Figure 4.3. All records pertain to MNES described in the MMP, with the exception of observations of White-throated Needletail over the site. This species was listed following the approval, and as an aerial forager will not be significantly impacted by project activities.



Source: EMM (2024); DES (2024); DR (2024); ESRI (2024); GA (2011)

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Stage 1 clearing extents

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Figure 4.1

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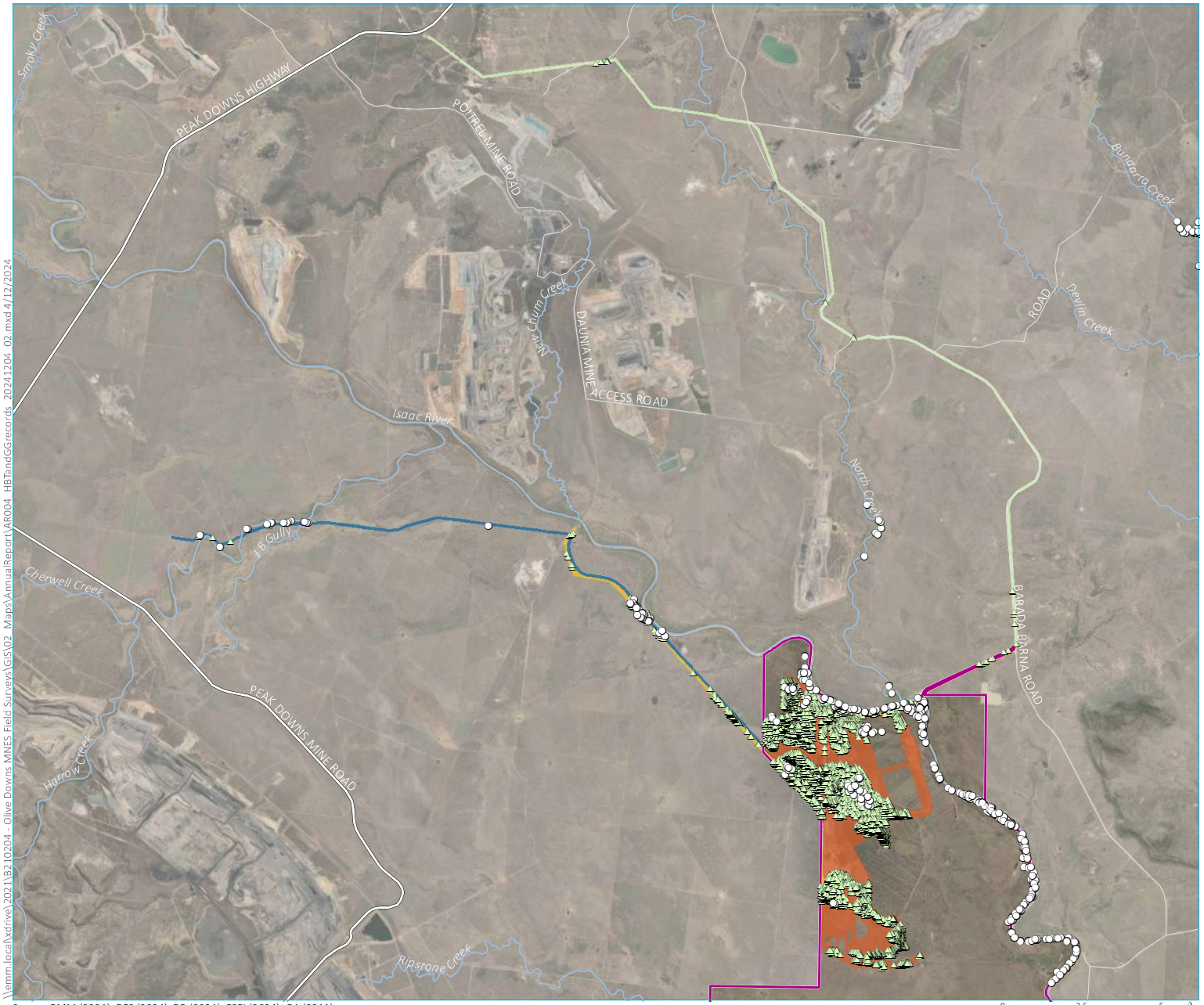

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Source: EMM (2024); DES (2024); DR (2024); ESRI (2024); GA (2011)

Hollow bearing trees cleared and Greater Glider records

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Figure 4.2

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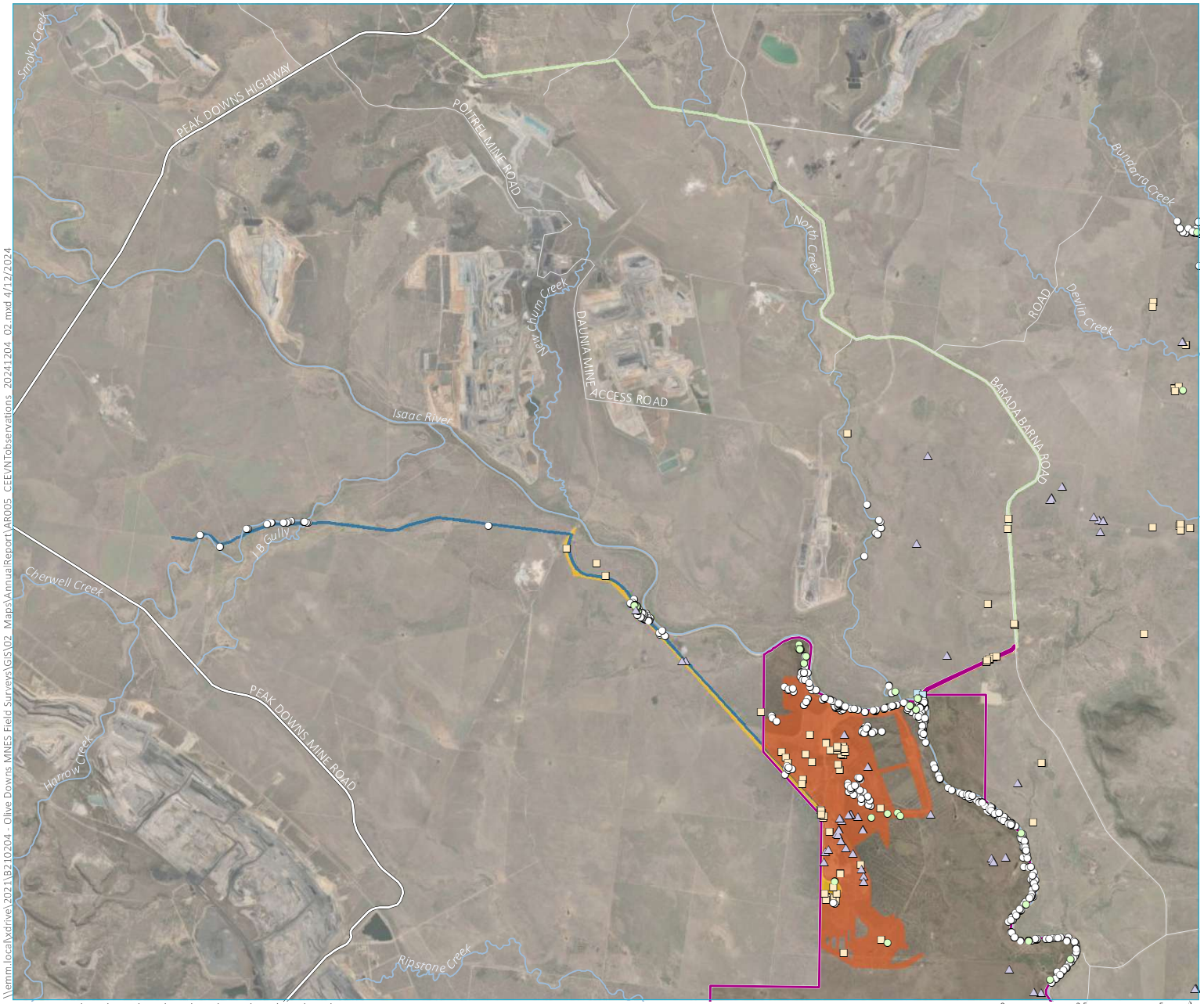

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Source: EMM (2024); DES (2024); DR (2024); ESRI (2024); GA (2011)

CEEVNT observations

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Figure 4.3

EMM
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5 Compliance against commitments in MNES plan

This section includes a table that addresses compliance with each of the conditions of the EPBC Act approval, including implementation of any management plans as specified in the conditions.

The criteria as per DCCEEW Independent Audit and Audit Report Guidelines (DCCEEW 2019) are below:

- Compliance: Where there is sufficient verifiable evidence to demonstrate that the intent and all elements of the requirement of the EPBC Act Approval have been complied with during the timeframe.
- Non-compliance: Where there is sufficient verifiable evidence to demonstrate that the intent of one or more specific elements of the EPBC Act Approval have not been complied with during the timeframe.
- Observation: Where issues relevant to the elements of the requirement of the EPBC Act Approval are not strictly related to compliance or non-compliance to a conditions or element of a condition.
- Not applicable: EPBC Act Approval requirement has an activation or timing trigger that has not been met therefore a determination of compliance could not be made.

Compliance against commitments in the MNES management plan has been assessed (as outlined in Table 5.1). In reference to the Independent Audit and Audit Report Guidelines (DCCEEW 2019), EMM has categorised compliance findings into either Compliant, Non-compliant, Observation and Not Applicable.

Table 5.1 Compliance against commitments in MNES plan

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Conditions of approval relevant to MNES Plan:			
Section 1.4.1	Condition 2 (EPBC 2017/7867) Approved disturbance limits Stage 1 (ha): Koala -1099 Greater Glider – 932.8 Squatter Pigeon breeding – 810.5 Squatter Pigeon foraging – 133.8 Ornamental Snake important habitat – 973.9 Australian Painted Snipe breeding – 16 Brigalow TEC - 0	Compliant	Clearing limits are described in the Post Clearing Report provided as Appendix B.
MNES management measures – vegetation clearing phase			
Section 4.3.1, Table 4.1	**No clearing of native vegetation and/or disturbance to MNES habitats occurs outside of the approved disturbance limits for each stage (detailed in Table 3.1 of MMP).** Clearly identify the approved clearing limits and exclusion zones via installation of temporary fencing, signage, flagging tape and barricades. Walk the boundary of clearing areas with a GPS that shows approved clearing extent to ensure the extent of clearing areas is accurate and compliant with the EPBC approval. Internal training will occur for all personnel involved in the vegetation clearing phase to ensure they are aware of the approved works areas. Summarised at criterion 10.	Compliant	Disturbance limits were demarcated on the ground and in GIS software. This is captured in the Permit to Disturb process and covered in Pembroke inductions.
Section 4.3.1, Table 4.1	**Avoid impacts to MNES habitat** When finalising areas required for the mine and associated infrastructure, identify opportunities to reduce clearing and retain individual trees with high ecological value or habitats such as gilgai. This would only be appropriate where the trees and/or habitat are situated on the boundaries of the site near other retained vegetation, and wildlife can safely utilise these areas. The trees or habitats to be retained are to be clearly marked and identified with GPS. These will be inspected and approved by the Pembroke Environmental Manager.	Compliant	Key habitat features outside of disturbance footprint retained.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 4.3.1, Table 4.1	**Maintain and protect a 200 m riparian corridor along Isaac River** No mining works or vegetation clearing will occur within 200m from the Isaac River except for approved crossings within riparian corridors. This riparian corridor will be an exclusion zone, including no grazing permitted, and clearly identified on site plans. During clearing activities for approved river crossings and any works proposed near the riparian corridor exclusion zone, high-visibility, temporary plastic bollards will be installed and connected by high-visibility tape throughout, to delineate the limits of clearing and ensure no impacts occur to the riparian vegetation or river. These exclusion zones will be communicated in on-site inductions as part of Olive Downs induction program, toolbox talks and shown on on-site maps. Erosion and sediment control measures will be in place to ensure sediment runoff does not occur into watercourses including the Isaac River riparian corridor. Erosion control measures will be installed including sandbags and sediment fences to catch sediment post any rainfall event. Spreading mulch from cleared vegetation over disturbed areas as soon as possible, particularly in higher risk areas with steep slopes, will be conducted to stabilise landforms and prevent soil runoff. Isaac River crossings to be limited to those specified within the EPBC approval which are: clearance of one corridor, a max. of 45 m in width for the conveyor crossing; and clearance of two corridors, a max. of 60 m in width for two road crossings including haul road to eastern waste rock emplacement. The crossing clearing widths will not be exceeded. Within land that is owned by Pembroke (ML700032, ML700035 and ML700036), and outside of the Stage 1 impact area, Pembroke will conduct weed and feral animal management. Further detail is provided in Section 5.2.1 and 5.2.2. Remove and exclude grazing from the Isaac River riparian corridor. Measures are summarised at criterion 15.	Non-compliant	No unapproved mining works or vegetation clearing in riparian corridors within 200m of the Isaac River has occurred. Vegetation clearing within these riparian corridors has occurred at the approved Isaac River crossing for the Bridge and the Electrical Transmission Line. Additional riparian vegetation clearing was conducted for the Northern Diversion Drain outlet and included in the approved EPBC Stage 1 amendment footprint. The riparian corridor was clearly demarcated on drawings, GIS software and in the field and communicated to relevant workers. Project personnel access has been restricted along the riparian corridor tracks to the Koala and Glider monitoring teams and for periodic environmental assessment, monitoring, weed management and feral animal control. Grazing has been removed from the northern sections of the Isaac River corridor, however Cattle are yet to be removed from the southern sections of the Isaac River corridor. Therefore, with cattle present in the protected area, Pembroke are non-compliant with this commitment.
Section 4.3.1, Table 4.1	**Identify MNES utilising the site prior to clearing** Preclearance surveys will include conducting targeted surveys to identify presence of MNES species in the area including Koalas, Greater Glider and Ornamental Snake. This will include spotlighting to increase detectability of the species over a number of consecutive nights. Further detail of preclearance surveys is provided in Section 5.2.14 including tailored methods for each target MNES species.	Compliant	Preclearance surveys were undertaken as documented in the MNES plan.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 4.3.1, Table 4.1	**Reduce impacts on native wildlife through relocation to adjacent habitats.** During preclearance surveys a suitably qualified ecologist will identify suitable release sites for native wildlife that may be required. This will include areas for release of Greater Glider once they have been captured out of hollows as summarised in Criteria 4. The release sites will be within the Project area, but outside of approved disturbance areas for the Project. They will support suitable habitat for the species and be well connected to adjacent habitats. The release sites will be marked by GPS and notes recorded. This will be provided to FSCs.	Compliant	Preclearance surveys were undertaken as documented in the MNES plan. Suitable areas within the Isaac River corridor depending on the ecology of the species have been identified and utilised with release records captured as per Appendix A.
Section 4.3.1, Table 4.1	**No injury or mortality to Koalas during clearing** Monitoring of Koalas using radio-tracking prior to clearing, during clearing and post clearing for Stage 1. Through such monitoring, the definitive locations of all monitored Koalas will be known during the vegetation clearing process. If there are Koalas present that are not being monitored these will be identified during surveys by FSCs and managed accordingly. Tracking will assist project ecologists/FSCs and other on ground personnel to modify clearing activities in areas where Koalas have been identified and will also help to understand a range of other Koala population information. Further detail on Koala tracking and monitoring prior to, during and post clearing is provided in Section 5.2.8. Trees identified as containing Koalas will be demarcated with flagging tape and/or marking spray and managed in accordance with the sequential clearing, summarised at criteria 11 and detailed at section 5.2.13.	Compliant	A Koala monitoring program has been in place during Stage 1. No mortalities have been recorded. Information on tracked Koalas has been communicated to all workers and clearing activities modified as discussed in the MNES Plan.
Section 4.3.1, Table 4.1	**Habitat features are retained for rehabilitation** During preclearance surveys all hollow-bearing trees and other habitat features such as nests, burrows, fallen logs and other micro-habitats will be identified. Any habitat features to be salvaged will be clearly marked and GPS location recorded. A report will be produced post survey summarising the number of hollows recorded, the size and number of hollows in each tree, and their GPS location. Some large tree hollows will be salvaged and installed in identified recipient sites. The hollow will be cut from the tree post felling and necessary fauna checks. Recipient sites will include areas that have suitable foraging habitat for Greater Glider and some existing hollows, as well as areas of suitable habitat with no hollows. They will also be areas to be retained by the Project and include areas in the proposed Stage 1 offset. Further detail on nest box installation is provided in Section 5.2.5. Fallen woody debris, large rocks etc will be moved to adjacent habitats. Eligible trees will be reused for Koala furniture.	Compliant	Preclearance reports have been prepared as per Appendix A and habitat features recorded in the field. High value large felled habitat/hollow trees were retained and relocated to the Issac River corridor conservation area to provide additional habitat for impacted MNES. Timber has also been retained and used for of Koala furniture, also in the Issac River corridor. Appropriate sized hollows were retained and installed as nest boxes providing supplementary habitat for MNES.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 4.3.1, Table 4.1	**Native seeds are salvaged for rehabilitation** Native seed will be collected (where available) prior to clearing occurring. The seed will be appropriately stored and used for future rehabilitation.	Non-compliant	Collection of native seeds has not yet been undertaken. Seed collection may take place over the course of Stage 1 and 2 to implement seed collection to assist with future site rehabilitation.
Section 4.3.1, Table 4.1	**Greater Glider breeding habitat is supplemented.** As a part of the stage 1 trial, nest boxes suitable for Greater Gliders will be installed at a ratio of 1:4 as far as practicable with consideration to the characteristics of the recipient sites. Nest boxes will replace hollows lost that have been determined to meet Greater Glider specifications, and that occur in mapped Greater Glider habitat. For further detail on nest boxes refer Section 5.2.5. Nest boxes will be installed at a minimum of 8 m from the ground, in suitable trees within Greater Glider habitat via an EWP. Nest boxes will be installed using the Habisure system.	Compliant	Nest boxes have been installed in areas of the Isaac River corridor to replace hollows lost in the disturbance footprint. Sites were identified by ecologists and calculated based upon preclearance survey estimates of suitable hollows cleared.
Section 4.3.1, Table 4.1	**All site personnel are trained and aware of MNES.** All site personnel (including sub-contractors) will be inducted on the potential threatened species and TEC and sensitive environmental areas occurring within the Project area. Training will include inductions, toolbox talks, prestart meetings and targeted training as required. Topics will include, but not be limited to, the two-stage habitat removal process, clearing limits, no go zones, fauna descriptions and handling procedures and hygiene protocols. All site personnel working in the Project area will be informed if exclusion zones are in place and where they occur. All site personnel will be required to sign the induction form to state they have read and understand all relevant material.	Compliant	MNES values have been included in site induction material.
Section 4.3.1, Table 4.1	**MNES species are handled safely and correctly.** A suitably qualified FSC will be present during clearing and will direct clearing in a manner that encourages and allows fauna to safely move from the clearing area to adjacent habitats. The FSC will ensure there are safe exits for native fauna and that clearing is occurring towards habitat that will be retained. Fauna exclusion fencing will be erected where necessary to ensure fauna do not move towards high risk areas such as a busy road. Where animals are unable to move out of the area on their own, they will be captured and placed in adjacent areas of equivalent habitat. In the event that fauna handling is required, the Fauna Handling and Rescue Procedure will be implemented (Appendix B). FSC is to check the clearing area for presence of native fauna including threatened species.	Compliant	FSCs have been present during clearing operations and procedures implemented as described in the MNES plan.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	Any captured fauna will be released into a pre-approved area. These release areas will be suitable habitat for the species, larger habitat areas that are being retained, with good connectivity. These release areas will have been identified during preclearance surveys. Any injured wildlife will be taken to a local vet or wildlife carer for treatment. This will be done in accordance with the Fauna Handling and Rescue Procedure provided in Appendix B. There will be at least one FSC present for each machine clearing vegetation.		
Section 4.3.1, Table 4.1	**Vegetation is cleared sequentially** Vegetation clearing will only occur within the approved clearing area (Criterion 1) and post preclearance surveys, salvage works and FSC survey of the area (Criterion 7). Clearing will occur sequentially in two phases with 48 hours of no-clearing between each phase. Phase 1 will consist of clearing understorey and juvenile vegetation and with large trees being cleared in phase 2. Habitat trees as identified and demarcated through preclearance surveys and/or Koala monitoring, will be retained temporarily during phase two, for a period of 24hrs, to minimise injury to MNES fauna and increase the likelihood they will be able to move safely into adjacent habitat. 'Slow drop' techniques and hollow inspections via EWPs will also be utilised. Further detail is provided in Section 5.2.13.	Compliant	Vegetation has been cleared as outlined in the MNES plan including use of preclearance surveys, FSCs and EWPs checking all hollows in potential Greater Glider habitat in addition to utilising 'slow drop' tree felling techniques for all clearing activities The sequential clearing process has been implemented to allow a period of time between phase 1 and 2 for animals to self-disperse. Additionally, the clearing 'pattern' is also directed to disperse animals towards sections of retained vegetation without isolating pockets of habitat within cleared areas.
Section 4.3.1, Table 4.1	**Reporting to be submitted post clearing phase.** Report to document mitigation measures implemented, any injuries or mortality and key learnings. Post-Clearing Report containing a summary of the results of preclearance surveys, descriptive notes taken throughout clearing activities and any fauna rescues, injuries or mortalities during clearing activities. The Post-Clearing Report will be reviewed by the Pembroke Environmental Manager. The report will include: name and qualifications of ecologists that completed preclearance surveys and results name and qualifications of FSC/s present during clearing assessment of the habitat and handling of fauna information on clearing operations, dates, procedures, areas that were cleared number and size of hollows contained in removed trees live fauna sightings, captures, any releases or injured/shocked wildlife any damage to trees to be retained, nests or other fauna habitat features	Compliant	A post clearing report is provided in Appendix B.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	injury or mortality of fauna photographs of rescued fauna records of all fauna rescue events, including locations to where fauna have been relocated. This report will form an appendix to the Annual Report for that applicable 12-month period.		
Section 4.3.1, Table 4.1	**Prevent vehicle strike on MNES.** All vehicles to maintain designated speed limit when on site of 60 km/hr or lower. Speed limit signs to be installed on all project roads at 1 km intervals, and at high-risk locations such as roads near or crossing riparian zones. The enforcement of the site speed limit will be communicated in toolbox talks and site inductions. Wildlife signage to be installed at key fauna habitat areas such as the main access road into site to identify potential for wildlife to be present and crossing the road.	Compliant	Speed limits are in place on site and signage installed including mobile signage indicating the presence of MNES species at high-risk locations
Section 4.3.1, Table 4.1	**Grazing is excluded from riparian zones on land associated with Stage 1 (outside of construction areas).** Livestock will be removed from the riparian zones which are on properties associated with Stage 1. Riparian zones include the entire area within 100 m from the defining bank of any watercourse and/or wetland. Watercourses have been defined using the Department of Natural Resources and Mines (DNRM) watercourse and drainage feature spatial dataset (2020), detailed at section 5.2.3. Wetlands were mapped based on Department of Environment and Science (DES) wetland environmental value mapping, detailed at section 5.2.3. Fencing to exclude livestock will be installed along the riparian zones being at least 100 m from the defining bank of watercourses and wetlands. Fences will not have barbed wire and will be wildlife friendly (except for areas that may need to be fauna exclusion fencing due to adjacent mine development). For fences that are required in areas for future development temporary fencing will be installed. This may include electric fencing as it prevents livestock from entering the area, but also native wildlife can go underneath bottom strand. Fencing specification for livestock exclusion is provided in Section 5.2.7. The fences will be regularly checked and maintained to ensure they haven't been damaged and livestock aren't getting through. Monitoring of fences is outlined in Section 6.1.	Non-compliant	In some sections of barbed wire fencing, the top wire has been exchanged for plain wire or wrapped in high visibility safety flagging. Livestock have not been removed from the Isaac River corridor conservation area. Agricultural fencing has not been installed to ensure a delineation between the conservation and pastoral areas. Therefore, Pembroke are non-compliant with this commitment.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 4.3.1, Table 4.1	**Prevent the introduction and/or spread of weeds and/or disease within the Project area.** All vehicles and machinery to be washed down prior to entering the site. Install wheel wash and rumble grids at site entry and egress points. Disinfectant to be placed into wash water to kill any bacteria. A designated wash bay will be established where vehicles and machinery can be cleaned on site before leaving site. The wash bay will be located away from MNES habitat, and any wastewater will be captured through bunds. Bunds will also divert surface rainwater runoff entering the wash bay and becoming contaminated. No wastewater will runoff into watercourses or wetlands in the Project area, the wash bay floor will be graded to drain towards a collection point or channel. The wastewater will go to an enclosed holding tank to be treated and may be reused or disposed of appropriately post-treatment. Soil and other materials brought into site (e.g. gravel) are to be accompanied by a weed free certification, issued by the material provider and will not be accepted without this certification. The Site Manager is to inspect and confirm certification prior to material being brought on site. The induction program will be utilised to ensure all personnel are aware of their responsibilities and are appropriately trained to wash down their vehicles, equipment and clothing to ensure weed seeds and bacteria are not spread. The induction program is summarised at criterion 9. Regular audits to be conducted to ensure vehicles and machinery have been washed down and are weed free.	Non-compliant	One wash down facility with rock abutments, further measures are required to minimise spread of weed and disease. Pembroke are non-compliant with this commitment because weed and disease prevention methods are not implemented sufficiently. Olive Downs equipment onboarding procedure (OD-STD-012 – Plant Equipment and Infrastructure) requires all plant and equipment arriving to site to have a valid weed and seed hygiene certification. Additionally, The Pembroke environmental team maintain an additional Vehicle Weed Inspection Checklist form to conduct plant inspections as required. The site induction contains information pertaining to weed washdowns and weed hygiene practices. Mechanical weed control conducted over 30 ha of Isaac River corridor in June 2023, Aug 24 and Nov 24. 6 x chemical weed control events targeting the lantana, parthenium and belly ache bush in, Dec 23, Jan 24, Feb 24, March 24, April 24, Oct 24 and Jan 25.
Section 4.3.1, Table 4.1	**Prevent soil runoff into watercourses.** Put in place effective erosion and sediment control methods during vegetation clearing to ensure that if a rainfall event occurs sediment does not run off the site into adjacent watercourses and/or wetlands. Mitigation measures will include: stockpiling topsoil and subsoil separately, with stockpiles having sediment fencing to prevent runoff to adjacent areas stockpiling and mulching cleared vegetation for spreading over disturbed areas minimising time soil is left exposed to erosion through progressive ground cover revegetation use of sediment traps and sediment basins use of sediment fences and sandbags to slow overland flow and catch runoff stabilisation of any batters with jute matting or seeding with sterile grasses	Compliant	Pembroke has implemented a Construction ESC and Surface Water Management plan to control the risks of run-off and sedimentation into watercourses. On a broad-scale Pembroke maintains several large sediment dams (existing farm dams) that capture overland flow from the areas cleared of vegetation. This is supported by a separate ESCP sub-plan – currently in draft form. Within the smaller sub-catchments all new infrastructure implements suitable drainage to ensure no direct overland flow impacts watercourses without some erosion and sediment control in place.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	use of erosion blankets (i.e. jute matting) as an alternative to mulching in drainage lines or areas with overland flow This information will be detailed further in an Erosion & Sediment Control Plan prior to clearing commencing.		
Section 4.3.1, Table 4.1	**Prevent increased levels of dust.** Pembroke will implement proactive and reactive dust control measures. These measures would include the use of weather forecasting and real-time measurement of dust levels and meteorological conditions to modify mining operations as required in order to achieve compliance with applicable air quality objectives at the nearest privately owned receivers. Water down dirt tracks if dust plumes are arising. Speed limits of 60 km or less to be put in place and enforced.	Compliant	Dust suppression has been conducted throughout the Project Area and on the public road used by Project traffic. A 60 km/h, less as signed, speed limit is enforced and when required (i.e. seasonally or as weather conditions require) night-shift dust suppression is conducted. Ongoing gravel re-sheeting of roads is also conducted to assist achieving air quality objectives.
Section 4.3.1, Table 4.1	**Maintain habitat for MNES outside of the approved disturbance limits** Areas of mapped habitat for the MNES species (outside of approved disturbance limits for Stage 1) will be retained and managed for their habitat values. Management actions will occur on land owned by Pembroke which includes the Stage 1 area. Active management will occur in these areas including weed management, feral animal management, grazing management and fire management. Management will aim to ensure these areas of habitat are retained and continue to support the species and habitat quality is not degraded over time. Further detail is provided in Section 5. Monitoring to track habitat quality is outlined in Section 6.3.	Compliant	Mechanical weed control conducted over 30 ha of Isaac River corridor in June 2023, Aug 24 and Nov 24. Six (6) chemical weed control events targeting the Weeds of National Significance (WONS) (*Lantana camara, Parthenium hysterophorus* and *Jatropha gossypiifolia*) were conducted from Dec 23 to Jan 25.with consideration of plant life cycles. Feral animal control in the Isaac River Corridor has occurred on eight (8) separate mobilisation from Feb 23 to Sept 24, and four (4) Felixr devices have been deployed.
Section 4.3.1, Table 4.1	**No uncontrolled fire events as a result of project activities** The purpose of fire management will be to avoid and reduce the risks of an uncontrolled fire event occurring. In particular, to avoid a hot bushfire occurring in the Project area as this has potential to result in death of MNES species, loss of habitats and Brigalow TEC. Fire management will include: establish and maintain access tracks and fire breaks implement measures to minimise mining activities starting a fire and having an emergency response plan to control any unplanned fires fire-fighting equipment will be installed, inspected and serviced in accordance with risk assessments and relevant legislation and standards	Compliant	Mechanical mulching/slashing of 30 ha of lantana and areas of high fuel load was conducted from June 23 to Nov 24. Regular inspections of management areas and maintenance of firebreaks/tracks were ongoing and included all property boundaries outside of proposed impact areas. An Emergency Response Team, inclusive of fire-fighting capabilities and equipment, is in place throughout all operational phases of the Project as required by legislation.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	manage fuel loads (this may be through grazing in some areas, cool mosaic burns and slashing where exotic grassland only). Further detail is provided in Section 5.2.4 manage activities that could start a fire such as mulch stockpiles, machinery etc.		
MNES management measures – construction phase			
Section 4.3.2, Table 4.2	**Avoid and minimise Koala injuries and mortality during construction phase.** Koala exclusion fencing is to be installed in key locations to keep individuals outside of active mine areas, avoid and minimise Koala injuries including from vehicles, and maintain their connectivity along Isaac River and to habitats in the south. Koala exclusion fencing has been identified for Stage 1. Pembroke only have detailed design for Stage 1, therefore subsequent stages and exclusion fencing locations will be identified during the scheduled review of this MMP one year prior to commencement of Stage 2. Koala exclusion fencing specification is provided in Section 5.2.9.	Non-compliant	While temporary Koala fencing is in place for all open exploration pits or areas considered high risk. No permanent Koala exclusion fencing and devices have been installed. Therefore, Pembroke are non-compliant with this commitment. Permanent Koala exclusion fence installation on the Mining Lease boundary is planned to commence in 2025.
Section 4.3.2, Table 4.2	**Maintain Greater Glider connectivity.** Installation of rope ladder crossings will occur at permitted cleared corridors in riparian zones of Isaac River. Two rope crossings will be installed as part of Stage 1. The purpose is to maintain Greater Glider habitat connectivity at these locations. Further detail regarding Greater Glider rope crossings is provided in Section 5.2.10.	Compliant	Glider rope bridges have been installed in 2024. Both rope crossings have had two remote cameras installed to inform of Greater Glider usage.
Section 4.3.2, Table 4.2	**Maintain Koala Connectivity** The bridge crossing over Isaac River in Stage 1 will allow Koala movement under the bridge along riparian banks. Bridge design is further described in Section 5.2.12. Exclusion fencing up to the bridge crossing will be installed to ensure Koalas cannot go onto the bridge or access road. Install Koala furniture under the bridge to help facilitate movement if there has been rainfall and water in river.	Non- compliant	Permanent Koala exclusion fence installation on the Mining Lease boundary will commence in the first Quarter of 2025. This will include Koala exclusion fencing from the access road and, if required, a Koala exclusion grid. Koala exclusion fencing has not been installed. Therefore, Pembroke are non-compliant with this commitment. Plans to install exclusion fencing will commence post Stage 1 clearing.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 4.3.2, Table 4.2	**Prevent dog attacks to native fauna.** Site personnel will not be permitted to bring domestic dogs into the Project area. Wild dog control measures will be implemented in the Stage 1 area and surrounding land owned by Pembroke to reduce population numbers. Further information on pest animal control is detailed in Section 5.2.2.	Compliant	Domestic dogs are not permitted in the Project area. Eight feral animal control mobilisations were undertaken from Feb 23 to Sept 24 with a significant number of pigs, cats and rabbits removed. It is accepted that a reduction in potential food sources (especially rabbits) may have a reduction of wild dog activity withing the Stage 1 area and surrounding land. Additionally, the project maintains an ongoing waste management plan where all general waste is kept in covered storages and disposed offsite, reducing the likelihood wild dogs will frequent active work areas.
Section 4.3.2, Table 4.2	**Reduce potential impacts to fauna as a result of open trenches.** Trenches will be inspected and monitored. This includes checking within two hours of sunrise and trapped fauna released. Additional monitoring will be undertaken following rainfall events. Fauna exit points including fauna ramps will be incorporated when construction is within 1 km of native vegetation, using appropriate material. Fauna refuges, such as sawdust-filled bags, will be provided regularly. The time a trench is left open will be minimised. As soon as practical following construction, the trench will be backfilled with excavated material, compacted, topsoil replaced, and erosion controls implemented.	Compliant	Open sumps are fenced with temporary Koala fencing and all sumps/trenches are designed with ramp exits. Backfilling of all open trenches/sumps occurs as soon as practicable, and all sumps are inspected post rainfall events.
Section 4.3.2, Table 4.2	**Reduce light spill into adjacent habitat.** Lighting in areas directly adjacent to retained MNES habitats will be reduced where practicable. Lighting will be designed in a manner that limits disruption on landscape character, views and visual amenity and lighting will be directed towards the infrastructure siting rather than dispersed into native vegetation when sites are adjacent to intact habitat. Lighting at night will be minimised during construction. The use of low wattage lighting with light spill guards.	Compliant	No lighting for operational works is directed at or along the Isaac River corridor. In pit lighting is directed towards infrastructure, maintained within the boundaries of the Levee, located away from the Isaac River Corridor or, where possible, directed away from areas of MNES habitat.
Section 4.3.2, Table 4.2	**Ensure safe handling of MNES.** If Koala or Ornamental Snake are encountered within the construction area, workers can refer to the Fauna Handling and Rescue Strategy to minimise the risk of harming the fauna. Refer Appendix B.	Compliant	FSCs are utilised to relocate any animals within the construction areas

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 4.3.2, Table 4.2	**Maintain Koala and Greater Glider connectivity.** Koala exclusion fencing, exit devices and furniture will be maintained. Greater Glider rope crossings will be maintained. Further detail regarding maintenance is provided in Section 6.1 and 6.2.	Non-compliant	Permanent Koala exclusion fence installation on the Mining Lease boundary will commence in 2025. This will include Koala exclusion fencing from the access road and, if required, Koala exclusion grids and exit devices to allow for displaced Koalas to exit the construction side of the fence. Glider rope bridges were installed in 2024. As the Koala exclusion fencing has not yet been installed, Pembroke are non-compliant with this commitment.
MNES management measures – operational and decommissioning phase			
Section 4.3.3, Table 4.3	**Minimise residual impacts to MNES through progressive rehabilitation post mining.** Rehabilitation will be implemented as soon as practicable following construction and decommissioning activities. Rehabilitation activities will include: • waste rock emplacement final landforms are geotechnically stable and safe • self-sustaining vegetative cover is established outside of voids • establish self-sustaining areas of woodland • establish grazing land where area is safe for cattle access and pasture cover occurs to stabilise soil. Rehabilitation for post-mining land use will consist of areas with native vegetation (woodlands), areas of grazing land and final voids that will provide fauna habitat values. The agriculture (low intensity cattle grazing) post-mining land use areas would comprise a combination of native and improved pasture species. Remnant native vegetation in the Project area largely comprises woodland ecosystems adapted to alluvial and sand plains. Regional Ecosystems (RE) 11.5.3 (Poplar Box [*Eucalyptus populnea*] +/- Silverleaved Ironbark [*E. melanophloia*] +/- Clarkson's Bloodwood [*Corymbia clarksoniana*] woodland on Cainozoic sand plains and / or remnant surfaces) and RE 11.3.2 (Poplar box [Eucalyptus populnea] woodland on alluvial plains). Changes in the landform and substrate characteristics post-mining mean that RE 11.5.3 and RE 11.3.2 are not able to be recreated. However, framework species from these RE's (Poplar Box, Silver-leaved Ironbark and Clarkson's Bloodwood) and from RE's occurring on analogous elevated landforms in the region would be established in the woodland post-mining land use area. Residual voids will be isolated from the Isaac River.	Not applicable	All vegetation clearing to date has been for specific infrastructure (inclusive of construction) or as informed by the mine plan. Rehabilitation has occurred in areas of construction work packages that no longer require the areas for operations works or as required by the project Erosion and Sediment Control Plan. No rehabilitation for operational mining works, in accordance with the mine plan and Progressive Rehabilitation and Closure Plan, has been triggered and therefore this commitment is not applicable for this stage of mine production.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	The final voids would comprise of low wall, highwall and a void water body landform components. Pembroke has investigated the likelihood that the final void would provide suitable native fauna habitat and is detailed in Table 4-2, Section 4 of Additional Information to the EIS (Pembroke 2019). The final voids would provide suitable habitat for a range of native fauna, including species recorded within the Project site by DPM Enviroscience (2018) such as the Stripe-faced Dunnart (*Sminthopsis macroura*), Hoary Wattled Bat (*Chalinolobus nigrogriseus*) and Australian Grey Teal (*Anas gracilis*). Further detail on rehabilitation commitments are outlined in Section 4 Rehabilitation of the Olive Downs Coking Coal Project – Additional information to the EIS (Pembroke 2019) and Appendix D of the EIS. A Rehabilitation Plan will be finalised prior to completion of Stage 1 and incorporated into the MMP for Phase 2.		
MNES outcomes and mitigation measures – weed mitigation and management			
Section 5.2.1	All vehicles and machinery to be washed down prior to entering the site. Wheel wash and rumble grids will be installed, and a designated wash bay will be established where vehicles and machinery can be cleaned on site before leaving site	Non-compliant	One wash down facility with rock abutments, further measures are required to minimise spread of weed and disease. Pembroke are non-compliant with this commitment because weed and disease prevention methods are not implemented sufficiently. Olive Downs equipment onboarding procedure (OD-STD-012 – Plant Equipment and Infrastructure) requires all plant and equipment arriving to site to have a valid weed and seed hygiene certification. Additionally, The Pembroke environmental team maintain an additional Vehicle Weed Inspection Checklist form to conduct plant inspections as required.
Section 5.2.1	Regular audits to be conducted to ensure vehicles and machinery have been washed down and are weed free.	Compliant	Daily plant and equipment pre-start are conducted, and the format includes check of plant and equipment internal and external cleanliness (potential for weed and seed contaminated mud etc).
Section 5.2.1	Personnel to be trained in how to wash down their vehicles and equipment to ensure weed seeds and bacteria are not spread.	Compliant	The site induction contains information pertaining to weed washdowns and weed hygiene

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 5.2.1	Personnel are to ensure their clothing and boots do not carry weed seeds.	Compliant	Note for reference
Section 5.2.1	Any soil or other materials brought into site are certified as weed free.	Compliant	No general fill has been imported. All quarry material imported to site has been blasted rock and gravel for the purposes of road sheeting and blast hole stemmings. This material is all sub-surface and free of weed contamination.
Section 5.2.1	A baseline weed survey will be completed in the first year of Project commencement.	Compliant	A baseline survey was completed in 2021
Section 5.2.1	Accordingly, a strategic grazing regime will be implemented to reduce the presence and biomass of exotic pasture grasses in the Project area (outside of riparian zones and wetlands where grazing is excluded) and assist to manage weeds (refer to Section 5.2.3).	Non-compliant	Agricultural fencing is being constructed strategically for grazing purposes, however, there has not been a strategic grazing regime implemented yet deeming this commitment non-compliant.
Section 5.2.1	Weeds will be managed at least annually, using chemical and/or mechanical control in accordance with the control measures and timing consistent with Biosecurity Queensland Fact Sheets (DAF 2020), for the relevant weed species. Weed control will be implemented by suitably experienced and licenced contractors or suitably qualified and licenced site manager.	Compliant	Mechanical weed control conducted over 30 ha of Isaac River corridor in June 2023, Aug 24 and Nov 24. Six chemical weed control events targeting the Weeds of National Significance (WONS) (*Lantana camara, Parthenium hysterophorus* and *Jatropha gossypiifolia*) were conducted from Dec 23 to Jan 25 with consideration of Biosecurity Queensland Fact Sheets for management of specific weed species. Weed control undertaken by suitably qualified contractors under the authority of a commercial operators licence for using herbicides.
Section 5.2.1	Weed biomass may also be a reduced through a combination of crash grazing, slashing and/or hazard reduction burns and cool burns where relevant as grazing isn't permitted in riparian zones. Post the baseline weed survey being completed Pembroke will prepare a Weed Action Plan for each year that sets out the specific weeds, control methods and effort to be applied.	Compliant	A Weed Action Plan has been created to establish the status of the site prior to the commencement of on ground weed management activities. The Weed Action Plan details the results of the baseline weed survey conducted as part of the baseline monitoring report, includes recommended target weed species, control methods and effort for the first 12 months to be applied.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
MNES outcomes and mitigation measures – feral animal mitigation and management			
Section 5.2.2	Feral animal management will aim to reduce feral animal populations within the Project area and the habitat degradation they cause to MNES habitats. Feral animal management will occur on land that is owned by Pembroke within the Project area as part of Stage 1. Those areas of land within the Project area, not required to be developed for Stage 1, will be actively managed for pest animals. Feral animal management will be undertaken by suitably experienced and licenced contractors or suitably qualified and licenced site manager.	Compliant	Feral animal control has been undertaken by suitably qualified operators in the Isaac River corridor (including shooting and the installation of Felixr devices) and other areas of the site. Feral animal control in the Issac River Corridor has occurred on eight separate mobilisation from Feb 23 to Sept 24. Four Felixr devices, for feral cat control, are operational within the Isaac River corridor conservation area.
Section 5.2.2	Results of feral animal assessments will be reviewed following each reporting event to inform the need for, location and timing of species-specific control measures in subsequent years.	Compliant	Feral animal monitoring has taken place annually and informed control measures being implemented. See Appendix D
Section 5.2.2	No domestic animals will be permitted on site (excluding service animals or animals involved in management actions (e.g. working dogs).	Compliant	No domestic animals are permitted, and this has been included in site documentation
Section 5.2.2	Any existing feral animals on site will not be fed. Waste material will be appropriately sealed and stored to discourage encroachment by feral species. Waste will be stored in covered bins/skips to prevent fauna access.	Compliant	The project maintains an ongoing waste management plan where all general waste is kept in covered storages and disposed offsite, reducing the likelihood feral animals frequenting active work areas.
MNES outcomes and mitigation measures – grazing mitigation and management			
Section 5.2.3	Livestock will be removed and excluded from riparian zones on properties associated with Stage 1, as required by Condition 46(c) of EPBC approval (EPBC 2017/7867). Riparian zones include entire area within 100 m from the defining bank of any watercourse and/or wetland.	Non-compliant	Livestock have not been completely removed from the Isaac River corridor conservation area, therefore Pembroke are non-compliant with this commitment.
Section 5.2.3	Fencing to exclude livestock will be installed along the riparian zones being at least 100 m from the defining bank of watercourses and wetlands. Fences will not have barbed wire and will be wildlife friendly (except for areas that may need to be fauna exclusion fencing due to adjacent mine development). For fences that are required in areas for future development temporary fencing will be installed. This may include electric fencing as it prevents livestock from entering the area, and native wildlife can go underneath bottom strand. Fencing specification for livestock exclusion is provided in Section 5.2.7.	Non-compliant	All new fencing is a wildlife friendly design and high-visibility flagging is installed on the top wire of existing fencing until the top barbed wire can be removed. Non-compliance due to insufficient efforts in providing wildlife safe fencing.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 5.2.3	In areas that are not part of an active mining area or riparian area, strategic grazing will be used to assist in managing fuel loads and weeds. The MMP outlines the biomass management strategies to be implemented for each habitat type and triggers for grazing.	Compliant	Strategic grazing will occur outside of the livestock exclusion areas to assist in fuel load reduction and weed control.
MNES outcomes and mitigation measures – fire mitigation and management			
Section 5.2.4	Access tracks and fence lines will be used as firebreaks within the Project area, and fire exclusion zones around infrastructure will be established. The firebreaks will be maintained by: grading all existing/proposed fence lines grading all existing access tracks bordering or traversing Project area strategic grazing will be used to control fuel loads, where appropriate/necessary (see Section 5.2.3).	Compliant	Firebreaks have been established and maintained. A changed firebreak management practice in the Isaac River riparian corridor (slashing of firebreaks rather than grading) has also reduced to opportunity for weed spread by maintaining ground coverage of existing grass species (both native and introduced).
Section 5.2.4	Grazing will be permitted in sections of the Project area on a managed and limited basis to control weeds and reduce fuel loads. The suitability of conditions for undertaking a grazing event will be informed by biomass monitoring events.	Compliant	Strategic grazing will occur outside of the livestock exclusion areas to assist in fuel load reduction and weed control.
Section 5.2.4	When necessary, fuel management (e.g. cool mosaic hazard reduction burns prior to the dry season) will be undertaken in consultation with the Qld Rural Fire Service (RFS). Consultation with RFS will also be required for controlled burning at appropriate intervals to promote regeneration and germination of native vegetation communities and species. Fire will be excluded from the Brigalow TEC patches.	Not applicable	No burning has occurred yet in the Isaac River corridor as there has not yet been the requirement to do so.
MNES outcomes and mitigation measures – nest box trial			
Section 5.2.5	Nest boxes will be used to provide supplementary breeding and sheltering habitat that have been removed through vegetation clearance within the impact area. The target species for nest box utilisation is the Greater Glider, and the nest box program will be trialled for Stage 1 of the project. These will be installed within adjacent suitable habitat that is not within any future disturbance areas being the Issac River corridor. During the preclearance survey's exact locations for nest box installation will be finalised.	Compliant	Nest boxes have been installed in areas of the Isaac River corridor to replace hollows lost in the disturbance footprint. Sites were identified by ecologists and calculated based upon preclearance survey estimates of suitable hollows cleared.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 5.2.5	During preclearance surveys mapping of all hollow-bearing trees to be removed during clearance will be recorded. Tree hollows that meet the requirements for Greater Glider will be specifically identified and mapped. As part of the Stage 1 trial, nest boxes suitable for Greater Gliders will be installed at a ratio of 1:4, i.e. 1 nest box will be installed for every 4 suitable natural hollows (of Greater Glider dimensions that are cleared), as far as practicable with consideration to the following limitations: number and density of appropriate trees in the allocated Isaac River recipient area number and density of existing suitable hollows in the allocated Isaac River recipient area.	Compliant	Preclearance surveys recorded suitable hollow bearing trees to be removed. Nest boxes have been installed in areas of the Isaac River corridor to replace hollows lost in the disturbance footprint. Sites were identified by ecologists and calculated based upon preclearance survey estimates of suitable hollows cleared.
Section 5.2.5	Suitable access to enable the nest box to be safely installed through use of an EWP. The number and spacing of nest boxes within the recipient area will be determined by a suitably qualified ecologist with consideration to the above factors.	Compliant	Nest boxes have been installed in areas of the Isaac River corridor to replace hollows lost in the disturbance footprint. Sites were identified by ecologists and calculated based upon preclearance survey estimates of suitable hollows cleared.
Section 5.2.5	Following the Stage 1 trial, should remote camera and visual inspections (see section 6.2) demonstrate at least 1% of nest boxes are being utilised by Greater Glider and therefore that nest boxes have some level of success, nest boxes will be installed at an increased ratio for all future clearing activities.	Compliant	Monitoring of the nest boxes has taken place through remote cameras and inspection by EWP. See Appendix C for further detail.
Section 5.2.5	Maintenance inspections will be undertaken in conjunction with monitoring events. Potential maintenance works would involve: repairing nest boxes reattaching nest boxes to trees removal of feral species (including possible retrofitting of nest boxes to exclude feral species) removal of excessive denning material (i.e. leaf litter) replacement of fallen, damaged or degraded nest boxes repositioning or relocation of dysfunctional nest boxes. If nest boxes need to be removed from the site for repair and shows signs of native fauna usage, alternative nest boxes will be installed in the same location upon removal of the damaged box (RMS 2017).	Compliant	Maintenance has been undertaken in conjunction with Greater Glider nestbox monitoring program.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
MNES outcomes and mitigation measures – installation of salvaged tree hollows			
Section 5.2.6	The process of installing a natural tree hollow will be done by EWP. The recipient tree is the tree that will receive the relocated hollow section. The suitability of the recipient tree will firstly be assessed including health of the tree, structural integrity and there is a clear flyway in the direction of suitable roosting habitat, away from noise, artificial lighting and disturbance. The recipient tree will also be assessed to determine the hollow can be placed at least 10– 15 m high.	Compliant	Natural hollows have been incorporated into the nest box installation program
MNES outcomes and mitigation measures – fencing to exclude livestock from riparian areas			
Section 5.2.7	For existing fences, the top strand of barbed wire will be replaced with plain or borderline (white plastic coated) wire as this can significantly reduce the risk of entanglement (Land for Wildlife Qld 2017). Reflectors will also be placed on the top wire to increase detectability at night by wildlife.	Non-compliant	Some existing fences have been removed completely and some remaining fencing has high visibility flagging installed, however this commitment has not been enacted across all remaining fencing and therefore non-compliant.
Section 5.2.7	For new fencing design parameters will include: • design of a fence to allow for animals to pass underneath. Leave a minimum of 40 cm between the ground and the bottom wire • choice of a plain, high-tensile fencing wire or borderline (white plastic coated) for top strand. If this is tensioned correctly, this fencing material can contain most stock. Put reflective material or aluminium plant tags on top strand so fauna can more easily see this at night. Tags need to be placed at 30cm intervals (Macedon Ranges Wildlife Network 2020) • electric fencing to be used in areas where temporary fencing is required. The bottom hot wire will be kept above 40 cm from the ground to allow for small animals to pass under with ease. As it is cheaper and quicker to construct, and effective for containing livestock, electric fencing will be used in areas required to be developed in future stages.	Compliant	Pre-existing fencing will continue to be removed from the corridor area and any fencing to remain for stock control along creek lines will have the top wire flagged and then progressively removed. Temporary electric fencing, with the bottom hotwire above 40 cm, has been installed in location where wildlife friendly stock fencing was not considered appropriate.
Section 5.2.7	Fencing will: • ensure creek banks are not degraded • retain existing riparian vegetation • allow for natural regeneration along riparian areas • protect aquatic habitat and water quality • reduce stock loss from bogging and drowning.	Compliant	Pre-existing fencing will continue to be removed from the corridor area and any fencing to remain for stock control along creek lines will have the top wire flagged and then progressively removed. Temporary electric fencing, with the bottom hotwire above 40 cm, has been installed in location where wildlife friendly stock fencing was not considered appropriate.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
MNES outcomes and mitigation measures – Koala monitoring			
Section 5.2.8	Koala monitoring program will be implemented for Stage 1 as a trial. Translocation of Koalas is not proposed as it is a very intrusive way of moving Koalas from a clearing area and studies have shown it is ineffective. It is preferred that other avoidance and mitigation measures are trialled, such as sequential clearing, use of FSCs, and tracking Koalas through use of GPS collars to learn more about the Koala populations prior to clearing commencing, being able to identify their location during clearing to ensure impacts do not occur, and allow them to naturally disperse from the area of their own volition and monitor their dispersal.	Compliant	A Koala tracking and monitoring program using GPS collars, drones and spotlighting is in place, and the clearing activities are compliant with these requirements.
Section 5.2.8	Koala monitoring will commence during preclearance surveys at least 3-4 weeks prior to clearing commencing to allow sufficient data to be recorded relating to regular activity areas and movement. This will be undertaken by suitably qualified ecologists appointed by Pembroke who have the appropriate Scientific Purposes Permit (SPP) and animal ethics approval in place. It is proposed two teams will implement the Koala monitoring as it will go over a four-month period therefore teams can work on a rotation basis.	Compliant	A Koala tracking and monitoring program using GPS collars, drones and spotlighting is in place, and the clearing activities are compliant with these requirements.
Section 5.2.8	Koalas will be monitored for at least 3 months post clearing to determine where they move to after clearing, survival rates and where they may settle.	Compliant	A Koala tracking and monitoring program using GPS collars, drones and spotlighting is in place and will continue post clearing
Section 5.2.8	A more detailed Koala Monitoring Implementation Program will be developed that will form the basis for the SPP and Animal Ethics applications and approvals. These approvals are required from the Queensland Government before the monitoring can be undertaken. This will include specific methodologies, timing, personnel and costs.	Compliant	The monitoring program is in place with relevant State government approvals.
MNES outcomes and mitigation measures – Koala connectivity structures			
Section 5.2.9	Koala exclusion fencing and escape devices will be installed in key locations to mitigate threats to resident and transient Koalas, posed by active mine sites and associated activities (DES 2019).	Non-compliant	Koala fence planning is progressing, but yet to be installed therefore, this commitment is non-compliant.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 5.2.9	Specifically, Koala exclusion fences and escape devices will keep Koalas outside of active mine areas and avoid and minimise Koala injuries including from vehicles.	Non-compliant	Permanent Koala exclusion fence installation on the Mining Lease boundary will commence in 2025. This will include Koala exclusion fencing from the access road and, if required, a Koala exclusion grid. However, fencing and escape devices are yet to be installed therefore this commitment is non-compliant.
Section 5.2.9	Koala escape devices will be installed every 200 m along the fence line, these are to be a minimum of 125 mm in width or diameter, and the height will be at least 3.3 m so the Koala can get above the height of exclusion fence. Installing fencing material that is unclimbable discourages Koalas from climbing the fence and entering the active mine area. Chain wire fencing with a smooth metal or Perspex sheet on top of the fence in the direction that the Koala will attempt to climb is the preferred fencing material type (Plate 5.4).	Not applicable	Permanent Koala exclusion fence installation on the Mining Lease boundary will commence in 2025. This will include Koala exclusion fencing from the access road and, if required, a Koala exclusion grid. The fence design will be at least 1.5 m high and incorporate a 60 cm high 'non-climbable' aluminium sheet in accordance with the accepted MRTS51 (DTMR 2023). However, fencing is yet to be installed therefore this commitment is not applicable.
Section 5.2.9	• Fencing will be designed and installed in accordance with the following specifications: • the top of the unclimbable section of fencing must be least 1.5 m from the ground to prevent Koalas jumping and gripping the top of the fencing • fence bracing or supports are on the mining side of the fence, away from Koala access • fencing should extend to ground level along uneven or undulating ground • escape devices should be placed on the mining/development side to allow Koalas trapped in the mine to exit into habitat (Plate 5.4) • escape devices will be installed at least every 200 m along the fence line • the requirement of 'Qld Style Koala Fencing' (Plate 5.4), which are: • galvanised chain-link fence with 2,100 x 50 x 3.15 mm mesh • fence to be at least 1.5 m in height • -metal sheeting to be attached to the top of the fence • three strands of plain wire are to be placed at 60 mm and 1200 mm from the ground, with the remaining wire at the top of the posts • ground mesh 600 x 50 x 2.5 mm to be placed 200 mm from the bottom turned and pegged to the ground for a min. 400 mm	Non-compliant	The fence design will be at least 1.5 m high, incorporate a 60 cm high 'non-climbable' aluminium sheet and suitable ground mesh in accordance with the accepted MRTS51 (DTMR, 2023) and Koala sensitive design guideline (DES 2022). No koala poles or escape devices have been installed as the permanent fencing has not begun. Fencing and escape devices are yet to be installed therefore this commitment is non-compliant.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	• posts to be spaced at max. 3000 mm. • Smooth metal or Perspex sheet can be placed at the base of the fence line to stop the movement of small to medium sized reptiles (Plate 5.5) (DES 2019).		
Section 5.2.9	Koala exclusion fencing requires regular maintenance. Vegetation beside the fence should be regularly maintained to exclude trees and shrubs from within 3 m of the fence, to keep canopies of trees trimmed, to remove links to tree canopies on the other side of the fence, and to remove fallen branches and vine growing on the fence which Koalas may use to climb over the fence.	Not applicable	Permanent Koala exclusion fence installation on the Mining Lease boundary will commence in 2025, therefore this commitment is not applicable.
MNES outcomes and mitigation measures – Greater Glider connectivity structures			
Section 5.2.10	Greater Glider rope ladder crossings will be installed at each of the five clearance corridors within the Isaac River and Ripstone Creek riparian zones as required by Condition 46. Final crossing locations relevant to project Stage 1, and indicative locations for those relevant to project Stages 2 and 3, as applicable to the Isaac River. Final crossing locations will be confirmed in future revisions of the MMP. Crossing locations cannot be displayed for the Ripstone Creek clearance corridors, as the locations of corridors themselves are yet to be determined, however will be included in future revisions of the MMP. The following will be considered when determining the final locations of crossings: • escape devices must be located at a safe distance from defining riverbanks • the locations of Greater Glider records and habitat trees in the adjacent retained areas • capacity to link the crossings to adjacent habitat for target species (habitat trees) e.g. via ropes or ladders tied off from the escape devices into surrounding trees. Nearby trees are essential to link the canopy bridge into the surrounding vegetation • a minimum seven metre clearance above the ground must be achieved.	Compliant	Greater Glider crossings with box ladder designs and remote camera traps to observe use of crossings were installed in 2024.
Section 5.2.10	Rope ladder crossing design and materials will be based on the most up to date standards and design shown to be effective for gliders and crossing wide spans such as roads.	Compliant	Greater Glider crossings with box ladder designs and remote camera traps to observe use of crossings were installed in 2024. Rope ladder crossings have been acquired from a reputable and experienced distributor with over 15 years' experience in design, consultation and research into the most effective types of fauna furniture.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 5.2.10	Remote camera trap will be placed on either end of the rope ladder crossing during installation by suitably qualified personnel to maintain a record of fauna usage. The cameras will be powered by solar panels. Usage of the crossings will be included in monitoring (Section 6.2) and annual reporting (Section 7.1).	Compliant	Greater Glider crossings with box ladder designs and remote camera traps to observe use of crossings were installed in 2024. Remote download cameras will be installed at both ends of the Glider rope bridges to assess the use and species diversity to determine effectiveness of the installation.
MNES outcomes and mitigation measures – Greater Glider monitoring			
Section 5.2.11	The Stage 1 area is known to support Greater Glider habitat, and individuals have been recorded to the north and east along the Isaac River. If Greater Gliders are found in tree hollows during preclearance surveys in the Stage 1 clearing area, that they are collared and radio-tracked to gather information including: • dispersal within the Project area and surrounding areas during and post clearing • determine if they are utilising nest boxes that have been installed prior to clearing along the Isaac River and adjacent habitats • the health of individual Greater Gliders • population numbers.	Compliant	A Greater Glider tracking and monitoring program using GPS collars, drones and spotlighting is in underway. Further details will be provided in a separate report provided to DCCEEW.
Section 5.2.11	While mitigation actions will be implemented to encourage natural dispersal of Greater Glider from the clearing area, it is likely many will remain in their preferred denning trees at the time of clearing. Therefore, prior to felling, each habitat tree (known or suspected to be used by Greater Glider) will be inspected using an EWP. Suitably qualified ecologists/FSCs will inspect each trees hollow for Greater Glider. If the species is present, they will be captured by hand if possible. Or in a situation where they are too deep within a hollow to be reached, the hollow entrance will be blocked with a rag or towel and the limb cut where solid below the den. This latter method is preferred as it will cause less stress on captured Greater Gliders as opposed to physically extracting them from hollows during daylight. Once gliders are captured (either bagged or remaining in a hollow limb), they will be placed in a quiet, shady and cool location until release that night in the pre-determine release area/s. Those gliders within recovered hollows, will have the rag/towel removed from the hollow limb and will be left to emerge in their own time. Prior to release, those Greater Gliders that are to be monitored post release will be fitted with a radio-collar.	Compliant	All suitable hollow bearing trees for Greater Glider were inspected by an FSC using an EWP. Greater Gliders encountered were captured, fitted with a radio collar and released in compliance with the requirements of the MNES Plan.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 5.2.11	The monitoring of Greater Gliders is proposed as a trial for Stage 1. It will provide important information on Greater Glider populations in the Project area and enable learnings in terms of where Greater Gliders are dispersing, if nest boxes are being utilised and survival rates post clearing of the original denning tree.	Compliant	A Greater Glider tracking and monitoring program using GPS collars, drones and spotlighting is in place and will continue post clearing
Section 5.2.11	Monitoring will occur during clearing and three months post clearing. A more detailed Greater Glider Monitoring Implementation Program will be developed that will form the basis for the SPP and Animal Ethics applications and approvals. These approvals are required from the Queensland Government before the monitoring can be undertaken. This will include specific methodologies, timing, personnel and costs.	Compliant	The Greater Glider monitoring program is in place with relevant State government approvals.
MNES outcomes and mitigation measures – access road crossing design			
Section 5.2.12	An access road in the north of the Project area is required to allow entry to the site from Annandale Road. Where the access road crosses the Isaac River, a bridge will be installed. This river crossing and bridge will be constructed during Stage 1.	Compliant	This bridge has been constructed
Section 5.2.12	The bridge will be raised above the riverbed and design elements will be included to allow native wildlife including Koalas to access the riparian corridor and be able to move under the bridge north to south along the river. Under the bridge Koala fauna furniture will be installed to allow them to get off the ground in case of rainfall events where the water has come up higher on the bank, and to also evade predators.	Compliant	The bridge is raised above the riverbed and allows fauna movement
Section 5.2.12	Exclusion fencing will also be installed on either side of the access road (on both sides of the river) to ensure wildlife including Koalas cannot get onto the access road and bridge along the riparian area. Where feasible and reasonable, the design is to avoid placing piers in permanent water channels and on stream banks, to minimise alteration to water flow and/or damage to stream bank vegetation.	Non-compliant	Permanent Koala exclusion fence installation on sections of the Mining Lease boundary will commence in 2025. This will include Koala exclusion fencing from the access road/bridge and, if required, Koala exclusion grids.
Section 5.2.12	The bridge will be designed to include: • a natural substrate at the abutment, such as soil or vegetation, where feasible and reasonable, scattered rocks could be included • allow unimpeded water flow, stream bank and riparian vegetation, preferably on both sides of the water course • the height of bridge will allow sufficient light and moisture to encourage growth of vegetation under the structures.	Compliant	The bridge is raised above the riverbed and allows fauna movement, and is compliant with these requirements.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
MNES outcomes and mitigation measures – sequential clearing			
Section 5.2.13	**Phase 1** Any habitat trees marked will be left during the first phase of clearing. The first phase will consist of removing understorey vegetation and smaller juvenile trees only. Juvenile trees are under 4 m in height or trunk circumference of less than 31.5 cm at 1.3 m above the ground. Vegetation will be cleared gradually moving away from any higher risk areas (i.e. major road, construction zones) towards adjacent fauna habitat.	Compliant	The clearing was undertaken consistent with the MNES plan.
Section 5.2.13	**Phase 2** After 48 hrs the second phase can commence which is to clear the remaining larger trees, including those with hollows. Trees with small hollows will be cleared using the "slow drop" technique. The tree will be brought down slowly by the machine and mulch put underneath to soften the fall. They will then be inspected by the FSC to ensure no wildlife remain in the hollow. Where possible fauna will be caught, and released into suitable recipient sites once clearing has stopped	Compliant	Vegetation has been cleared as outlined in the MNES plan including use of preclearance surveys, FSCs and EWPs checking all hollows in potential Greater Glider habitat in addition to utilising 'slow drop' tree felling techniques for all clearing activities The sequential clearing process has been implemented to allow a period of time between phase 1 and 2 for animals to self-disperse. Additionally, the clearing 'pattern' is also directed to disperse animals towards sections of retained vegetation without isolating pockets of habitat within cleared areas.
Section 5.2.13	If injured, fauna will be taken to a local vet/wildlife carer for treatment. It is crucial that Greater Gliders, Koalas and other arboreal fauna are given the opportunity to disperse from the area once clearing has commenced under their own volition. To encourage this, no habitat trees, as identified and demarcated in preclearance surveys and/or through active Koala monitoring, will be isolated. For those trees identified as containing Koala, surrounding trees with overlapping crowns or that may impact the Koala's tree during felling will not be cleared until the Koala has moved from the area under its own volition. In most situations this occurs overnight and will be confirmed for monitored Koalas by checking the individual's latest location. Once it has been confirmed the Koala has vacated the original tree, clearing can occur as usual following required checks for other fauna. For those trees identified as habitat trees for Greater Glider, dispersal corridors will be left in place that link vegetation with clearing areas to adjacent areas of retained habitat and are to be maintained for a further 24 hours, to facilitate overnight dispersal. Such corridors could consist of a single row of trees no more than 30-40 m apart that will act as 'stepping stones' to allow Greater Gliders to glide from tree to tree.	Compliant	Injured fauna were taken to local carers for assessment treatment when required. Vegetation has been cleared as outlined in the MNES plan including use of preclearance surveys, FSCs and EWPs checking all hollows in potential Greater Glider habitat. Vegetation has been cleared as outlined in the MNES plan including use of preclearance surveys, FSCs and EWPs checking all hollows in potential Greater Glider habitat in addition to utilising 'slow drop' tree felling techniques for all clearing activities The sequential clearing process has been implemented to allow time between phase 1 and 2 for animals to self-disperse. Additionally, the clearing pattern, inclusive of temporarily retained vegetation corridor, is also directed to disperse animals towards sections of retained

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	While dispersal described above is encouraged to assist in reducing the number of Greater Gliders within a clearing area, it is likely many will remain in their preferred denning trees at the time of clearing. Therefore, prior to felling, each habitat tree will be inspected using an EWP. Suitably qualified ecologists/FSCs will inspect tree hollows for Greater Glider. If the species is present, they will be captured by hand if possible. Or in a situation where they are too deep within a hollow to be reached, the hollow entrance will be blocked with a rag or towel and the limb cut where solid below the den. This latter method is preferred as it will cause less stress on captured Greater Gliders as opposed to physically extracting them from hollows during daylight. Once gliders are captured (either bagged or remaining in a hollow limb), they will be placed in a quiet, shady and cool location until release that night in the pre-determined release area/s. Those gliders within recovered hollows, will have the rag/towel removed from the hollow limb and will be left to emerge in their own time. Prior to release, Greater Gliders will be fitted with a radio-collar. Further detail on the radio-tracking of Greater Gliders is provided in Section 5.2.10.		vegetation without isolating pockets of habitat within cleared areas.
Section 5.2.13	Hollow limbs that are recovered during the EWP process will be salvaged and fixed to suitable trees in the predetermined release area/s using EWPs to provide a denning resource for relocated Greater Gliders. Further detail on the method to install natural hollows is in Section 5.2.5.	Compliant	Where practicable, salvaged hollows are retained and made into nest boxes for the incorporation into the nest box program in the Isaac River corridor conservation area.
Section 5.2.13	Non-woody vegetation should be incorporated into the stripping of topsoil to retain any organic materials and nutrients. Topsoil is not to be mixed with subsoil and will be stockpiled separately for re-use.	Compliant	A nominal 300 mm of topsoil, including non-woody vegetation, is stripped and stockpiled separately in accordance with the Mine Plan and operational Soil Management Plan.
MNES outcomes and mitigation measures – preclearance surveys			
Section 5.2.14	Preclearance surveys will be undertaken by a suitably qualified ecologist/s to identify the presence of MNES species in the proposed clearing area including Koalas, Greater Glider and Ornamental Snake. The surveys will include targeted active searches such as spotlighting to increase detectability of these three species over a number of consecutive nights.	Compliant	Preclearance surveys were undertaken as documented in the MNES plan. Preclearance reports are documented in Appendix A.
Section 5.2.14	**Greater Gliders** As Greater Gliders are dependent on large, hollow bearing trees for a sheltering/denning resource, nocturnal and diurnal pre-clear surveys will be conducted to identify and locate all potential Greater Glider habitat trees.	Compliant	Vegetation has been cleared as per the process outlined in the MNES plan including use of preclearance surveys, FSCs and EWPs checking all hollows in potential Greater Glider habitat.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	Nocturnal pre-clear surveys will involve spotlighting/stag watching commencing at dusk to confirm Greater Gliders are present in the clearing area generality, and to assist in determining which tree/s they are actively utilising. Due to Greater Gliders utilising multiple tree hollow dens in different trees, replication of the nocturnal surveys will be conducted to provide the highest likelihood of identifying all greater glider habitat trees. A minimum of three consecutive nights will be surveyed. All identified and suitable hollow-bearing habitat trees located during spotlighting surveys will be recorded with a GPS and clearly identified with fluorescent pink flagging tape. This information will inform salvage efforts by FSCs and provide an understanding of the number of hollows present. Suitable hollow-bearing trees will be identified using the following key attributes: • alive/dead myrtaceous trees or dead non-myrtaceous trees over 30 cm DBH (Smith et al. 2007) • possessing hollows with a diameter greater than 8 cm (Gibbons & Lindenmayer 2002) • at least 8 metres from the ground (Maloney 2007).		All suitable hollow bearing trees were identified in the field and checked by EWP prior to clearing.
Section 5.2.14	**Koalas** For Stage 1, Koalas will be surveyed prior to clearing and a tracking program will be implemented using radiotracking collars. The purpose is to identify the number of Koalas that may be utilising the Stage 1 clearing area, identify where they are during clearing to avoid impacts on them, and gain other useful information about Koalas in the Project area and their movement post clearing as to where they establish new home ranges.	Compliant	A Koala tracking and monitoring program using GPS collars, drones and spotlighting has been implemented, and the clearing activities are compliant with these requirements.
Section 5.2.14	**Ornamental Snake** Spotlighting will occur in mapped areas of Ornamental Snake habitat. Spotlighting will occur over three consecutive nights to determine if the species are present. Prior to clearing commencing a FSC will survey the area the night prior and attempt to capture Ornamental Snake that may be out foraging. They will then be released that night to adjacent suitable habitats which are being retained outside of the Project stages.	Compliant	Preclearance surveys were undertaken in conjunction with the process outlined in the MNES plan preclearance reports are documented in Appendix A.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 5.2.14	Diurnal pre-clear surveys will be conducted in conjunction with the nocturnal surveys and will use the following sequence: • clearing area clearly demarcated both on ground and in map form. Demarcation on the ground will be either temporary fencing, signage, flagging tape and barricades • preclearance surveys will be conducted by suitably qualified ecologists/FSCs. All trees within the clearing area will be thoroughly searched and all large trees that contain obvious or suspected hollows with an entrance diameter equal to or greater than 5-10 cm large, hollow bearing trees will be recorded with a GPS and clearly identified with fluorescent pink flagging tape. Basic tree data will also be recorded at this time including tree species, if the tree is alive or dead, approximate DBH and number of hollows • while some tree hollows may be obvious from the ground, not all may be clearly observed due to constraints such as the tree height and dense foliage obstruction the view. In such instances, if hollows cannot be clearly seen but are suspected of occurring in potential habitat trees for Greater Gliders, these trees will also be recorded as above • recorded GPS and tree data will be mapped and distributed to all relevant personnel involved in clearing operations. This data can then be used to assist in co-ordinating clearing operations • identify and record GPS location of micro-habitats for salvage (i.e. naturally formed hollows, large fallen logs, trees for use as millable timber and Koala exit devices).	Compliant	Vegetation has been cleared in conjunction with the process outlined in the MNES plan including use of preclearance surveys, FSCs and EWPs checking all hollows in potential Greater Glider habitat. All suitable hollow bearing trees were identified in the field and checked by EWP prior to clearing. These hollows were logged in GIS software available to FSCs in the field, and the hollow bearing trees were marked with pink spray in the field.
Section 5.2.14	Identify suitable areas for fauna relocation in adjacent areas providing suitable habitat for the species. Suitable recipient sites for Greater Gliders and Ornamental Snake will be identified and GPS recorded. These will be areas that are close to the Project, that provide suitable habitat and will not be cleared in the future for the Project. They will also be areas in which nest boxes (suitable for Greater Glider) are to be installed prior to clearing. Further detail on nest boxes is provided in Section 5.2.5.	Compliant	Preclearance surveys were undertaken in conjunction with the process outlined in the MNES plan. Suitable areas within the Isaac River corridor depending on the ecology of the species have been identified and utilised with release records captured as per Appendix A.
Monitoring – project area inspections			
Section 6.1	The aim of general Project area inspections is to identify any potential issues that may require remedial action. These general inspections will be conducted by a Pembroke environmental representative who is suitably qualified and experienced to assess both land management activities and threatened species and ecosystems twice per year for the duration of the Project to assess the following: 1. compliance with restrictions for vegetation clearing	Compliant	In accordance with Pembroke Environmental Management Plan and Permit to disturb process, area inspections throughout the site have been carried out as documented.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	2. maintenance of access tracks and firebreaks 3. efficacy and integrity of erosion and sediment controls 4. efficacy and integrity of fauna crossing structures, fencing, gates and vehicle speed signs 5. compliance with hygiene protocols 6. efficacy and integrity of livestock exclusion fencing both permanent and temporary. These events will also be used to detect occurrences of land degradation, erosion and weed infestation as well as project activities, including access, outside approved areas. This will be achieved by the nominated environmental representative auditing the Project site through visual inspections to confirm actions have been completed, inspecting infrastructure and interviewing on site managers including Pembroke Site Manager and Environment Manager to demonstrate actions have been implemented. A report will be produced post each general Project area inspection summarising findings and identifying any corrective actions that are needed. The report will be issued to the Pembroke Site Manager for information and any actions needed.		
Monitoring – Greater Glider crossings and nest box monitoring			
Section 6.2	**Rope crossings** A remote camera trap will be placed on either end of the rope ladder crossing to maintain a record of fauna usage. Camera footage will be reviewed quarterly for usage by Greater Gliders. Rope crossings will be visually inspected every six months to monitor the condition of the ropes. Any damaged rope crossings will be taken down and replaced immediately. **Nest boxes** Ten remote cameras will be installed during the Stage 1 trial, including on all salvaged natural hollows to maintain a record of fauna usage. Camera footage will be reviewed quarterly for the first two years and then every six months until first MMP review. Results will be reviewed to assess if the nest boxes have been successful. Remote cameras will be installed on or around nest boxes, in locations sufficient to monitor entrance and egress, to maintain a record of fauna usage. Camera footage will be reviewed quarterly for the first two years and then every six months until the MMP is revised for Stage 2. Results will be reviewed to assess if the nest boxes have been successful.	Non-compliant	Greater glider rope crossings have been installed in 2024. Monitoring of the nest boxes has taken place via physical inspection using an EWP, five remote cameras were installed in nest boxes to monitor usage of Greater Gliders, the footage has been reviewed and results are presented in the nest box monitoring report (See Appendix C). Pembroke are committing to installation of a further five cameras. As they are still yet to do so, therefore, this commitment is non-compliant.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	All nest boxes will be visually inspected 6 months after their installation, and twice a year thereafter until construction is completed. Twice-yearly inspections will coincide with breeding cycles. The frequency of visual inspections will be increased, and additional monitoring may be considered if, through visual inspection and/or camera footage review, should nest boxes show evidence of utilisation or possible utilisation by Greater Glider to the satisfaction of the suitably qualified ecologist. Any increased or additional monitoring will be prepared in consultation with the suitably qualified ecologist. Following the construction phase and during the operations phase, inspections will occur annually for at least 3 years. Visual inspection and camera footage reviews will be conducted by a suitably qualified ecologist as relevant to Greater Glider. During monitoring, nest boxes will be checked for wear and tear and may require maintenance. Any damaged nest boxes or nest boxes containing pest species will be taken down and replaced immediately.		
Monitoring – habitat quality monitoring			
Section 6.3	Weed, feral animal, grazing and fire management will be undertaken in all areas of retained MNES habitats (outside of disturbance footprints) to maintain habitat quality. Habitat quality monitoring of retained MNES habitats will be undertaken to ensure habitat quality is successfully maintained throughout the project life. For the first five years this will be within areas associated with Stage 1 and owned by Pembroke within ML700032, ML700035 and ML700036. Habitat quality monitoring will be undertaken in accordance with the Guide to Determining Terrestrial Habitat Quality (DES 2020) and converted to scores out of 10. Ten survey sites will be established in representative patches of vegetation communities and MNES habitats. Habitat quality assessments will be undertaken by suitably qualified ecologists. The habitat quality baseline surveys will be undertaken in March/April of 2022 and will provide benchmark scores for a number of key attributes including: • recruitment • tree, shrub and grass species richness • canopy cover • canopy height • native grass cover • weed cover • connectivity	Compliant	Habitat quality monitoring has been undertaken and is summarised in Appendix E.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	• threats • quality of foraging • quality of shelter • mobility. Habitat quality surveys, applying the Guide to Determining Terrestrial Habitat Quality (DES 2020), will then be completed between March and April annually for the remainder of Stage 1. The habitat quality sites will be expanded into further areas as part of the next iteration of the MMP for Stage 2 and will be approved by the Minister. Habitat quality monitoring for Stage 1 will be completed on an annual basis for the first five years, every second year for next five years provided habitat quality is maintained or improved. Monitoring will then be conducted every 5 years until completion of the Project. This is because the main habitat quality changes and improvements will occur in the first 10 years, and should then be maintained in the following years. Results from each monitoring event will be compared to establish that habitat quality has not decreased overall, and any individual criteria have not worsened (i.e. weed cover, canopy cover, recruitment etc). Each survey site's data is scored individually against a BioCondition benchmark relevant to the Regional Ecosystem (RE) represented at that site and compared against a set of maximum scores defined in the Guide to Determining Terrestrial Habitat Quality (DES 2020). The habitat quality assessments will also include permanent photo monitoring points to assist in assessing any changes over time, and the success of management measures. The same sites and methodology will be repeated at each monitoring event so scores can be compared for each attribute.		
Section 6.3	**Photo monitoring** In areas where active management is being undertaken, photo monitoring offers a simple and effective visual means by which to capture the response of the vegetation to management actions. Photo monitoring will be conducted at all fixed habitat quality assessment monitoring sites. Photos at each photo monitoring point will be taken in a north, east, south and westerly direction. A permanent feature will be included within the photo frame to provide a fixed reference point. A record of the photographs will be maintained, including GPS co-ordinates, date, time, direction and the height above the ground the photograph was taken. Data from habitat quality assessments and photo monitoring will be recorded on survey sheets and these will be attached to the monitoring reports that will be included in the annual reports.	Compliant	Habitat quality monitoring including photo points has been undertaken and is summarised in Appendix E.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 6.3	**Habitat utilisation monitoring** Habitat utilisation monitoring of retained MNES habitats will be undertaken to ensure habitat utilisation by the target MNES fauna species is successfully maintained throughout the project life. For the first five years this will be within areas associated with Stage 1 and owned by Pembroke. To enable monitoring of MNES fauna species utilisation, and detect any changes in utilisation over time, as part of the habitat quality assessment surveys targeted fauna species monitoring will be completed. These targeted MNES surveys will be undertaken at the same time and intervals as the habitat quality monitoring and include tailored methods for each species. The habitat utilisation monitoring will entail: • survey 10 permanent transects consistent with the Koala Spot Assessment Technique (SAT) in suitable Koala habitat to identify presence of Koala scats/scratches and individual Koalas that may be observed • spotlighting across 10 established permanent 100 m transects to identify presence of Greater Glider and/or Koalas in suitable habitats and searches for Greater Glider scats during the day across representative Greater Glider habitats • five camera traps to be placed near permanent water sources over three consecutive nights, and diurnal bird surveys at each habitat quality monitoring site to identify presence of Squatter Pigeon • spotlighting over three consecutive nights in mapped suitable habitat for Ornamental Snake to identify presence of species. • These survey methods are consistent with applicable EPBC survey guidelines for the species, and are regarded as suitable methods to survey for utilisation of habitats by these target MNES species. By repeating these surveys consistently, results can be compared to ascertain if there appears to be any change in species habitat utilisation. Weather conditions and any other limiting factors (such as drought or fire) will also be noted at the end of each MNES survey period.	Compliant	Habitat utilisation monitoring has commenced and is summarised in Appendix E.
Monitoring – weed monitoring			
Section 6.4	Weed monitoring sites will be randomly stratified during each monitoring event, as well as having fixed monitoring sites including at each of the 10 MNES habitat quality transects for Stage 1. The weed monitoring sites will incorporate different vegetation communities (e.g. open woodland, riparian, wetlands). Other fixed monitoring sites will be set at strategic trafficable areas (e.g. entry gates, creek crossings, stock watering points) to monitor potential introduction and/or eruptions of prohibited and restricted weed species.	Compliant	Weed monitoring has been undertaken and is summarised in Appendix E.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	Weed monitoring sites will be established in the first operational year of the Project as part of the weed baseline survey (discussed further in Section 5.2.1). The Project area will be monitored for weeds every year (post wet season) for the first three years of each project stage, followed by every two years for the remainder of the Project. Weed monitoring will determine the species richness and abundance, for the duration of the management period. The results of this monitoring will inform the methods for weed treatment and control (see Section 5.2.1). Assessing the presence and abundance of weed cover will be done in accordance with the methodology outlined in the Guide for determining terrestrial habitat quality (DES 2020). Briefly, this method involves establishing a 50 m x 10 m plot and dividing this plot into 20 smaller 5 m x 5 m sub-plots. Percent weed cover will be assessed in each of the 20 sub-plots and the total percent weed cover determined by taking the average from the 20 plots. Photo monitoring will also be undertaken within each plot. In addition to the weed monitoring sites, incidental observations of weeds will be recorded from the Project area during the six-monthly general inspections of access roads, fence lines etc. This will provide instances of weed infestations that occur away from the permanent weed monitoring sites. If trigger levels for weeds are met or exceeded, additional monitoring will be undertaken and will occur in conjunction with appropriate management measures until the presence and distribution of weeds reduces to baseline levels or below. Further details on corrective actions are set out in Table 6.1.		
Monitoring – pest animal monitoring			
Section 6.5	Pest animal surveys will be undertaken annually for the first three years of each project stage, followed by every two years for the remainder of the Project in conjunction with and at the same survey locations as the MNES habitat quality assessment surveys. Monitoring will consist of standardised timed visual observations as well as infrared camera trap monitoring. Relative abundance will be assessed using the most appropriate method as determined by the suitably qualified ecologist conducting the monitoring, and may include amongst other methods, number of animals encountered over a standard time frame, or a standard transect length. Evidence of faecal samples and damage cause by feral animals (such as evidence of feral pigs in gilgai and wetlands) will be recorded by GPS and documented as part of pest animal monitoring reports. Feral animals will also be opportunistically surveyed throughout the year outside of monitoring times during project area inspections (refer Section 6.1). Any evidence of mortality or injury to MNES as a result of feral animals will also be recorded during the pest animal surveys. If trigger levels for any feral animal species are met or exceeded, additional monitoring will be	Compliant	Feral animal monitoring has been undertaken and is summarised in Appendix E.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	undertaken and will occur in conjunction with appropriate management measures until feral animal presence reduces to baseline levels or below. Corrective actions are set out in Table 6.1.		
Monitoring – dust monitoring			
Section 6.6	Pembroke will implement proactive and reactive dust control measures. These measures will include the use of weather forecasting and real-time measurement of dust levels and meteorological conditions to modify mining operations as required in order to achieve compliance with applicable air quality objectives at the nearest privately owned receivers. Meteorological data and TSP, PM10 and PM2.5 levels would continue to be monitored on an ongoing basis at the existing monitoring site at the Project for the implementation of operational dust controls. A network of dust deposition gauges would also be installed. If monitoring indicates any unexpected exceedances of air quality objectives, an investigation would be conducted by Pembroke, including additional dust monitoring if required. Specific dust monitoring sites will be documented in an Olive Downs Air Quality Management Plan to be approved by DES prior to Project commencement.	Compliant	Monthly dust deposition monitoring and automated air quality monitoring is being undertaken on site in accordance with the Project Air Quality Management Plan. Additional dust suppression activities, including night shift dust suppression, are conducted on an as-needs basis dependant on site and meteorological conditions.
Monitoring – noise and vibration monitoring			
Section 6.7	Pembroke will implement proactive and reactive noise control measures. These measures will include the use of weather forecasting and real-time measurement of meteorological conditions and noise levels to modify mining operations as required in order to achieve compliance with applicable noise limits at the nearest sensitive receptors. To reduce noise emissions at the nearest sensitive receptors throughout the life of the Project, Pembroke would enclose a portion of the overland conveyor and utilise low noise idlers. Noise levels will be required to meet the thresholds specified in the Project's Environmental Authority (EA) and specific monitoring locations will be documented in the Olive Downs Noise Management Plan to be approved by DES prior to Project commencement.	Compliant	Automated noise and vibration monitors are installed at the nearest sensitive receptors as per Schedule D of the Environmental Authority conditions and in accordance with Pembroke Olive Downs-Noise Management Plan and Blast Management Plan. Overland Conveyor has yet to be constructed.
Monitoring – erosion and sediment control monitoring			
Section 6.8	Six monthly general inspections of the Project area will identify any areas of erosion that may require addressing. During vegetation clearing and construction phases erosion and sediment control measures will be inspected by a suitably qualified person on a monthly basis and post any significant rainfall event.	Compliant	In accordance with Pembroke Environmental Management Plan and Permit to disturb, process area inspections throughout the site have been carried out as documented

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Monitoring – fire and fuel load monitoring			
Section 6.9	Fire management within the Project area will be undertaken in accordance with the requirements of the Coal Mining Safety and Health Act 1999 (CMSHA), Coal Mining Safety and Health Regulation 2017 (CMSHR) and the Safety and Health Management Systems (SHMS) to mitigate fires from mining activities that have the potential to spread to MNES habitat. The CMSHR includes monitoring and review requirements for the SHMS. Thresholds for biomass and fuel load are outlined in the grazing management Section 5.2.3. Monitoring of these measures being: weed cover, biomass cover and height of dominant grasses will occur every month while grazing is occurring. This monitoring will be undertaken on an ongoing basis for the life of the Project by the site manager who is responsible for managing livestock and meeting requirements under this MMP. Habitat quality monitoring as outlined in Section 6.1 will also measure ground cover and support monitoring of biomass and potential fire risk. Triggers and corrective actions associated with fire are provided in Table 6.1.	Compliant	Habitat quality monitoring has been undertaken and is summarised in Appendix E.
Summary of MNES monitoring program			
Section 6.1, Table 6.1	Incidental observation of MNES species to be reported to Pembroke Environment Manager through use of MNES sighting forms.	Compliant	MNES listed species have been recorded in the Project webmap.
Section 6.1, Table 6.1	Every 6 months monitoring of Koala exclusion fences and Greater Glider crossings will occur.	Not applicable	To occur after installation commencing in 2024 for the rope crossing and after installation in 2025 for Koala exclusion fences, therefore not applicable.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Reporting and administration			
Section 7.1	**Reporting** An 'annual report' will be prepared at the end of each calendar year. The annual report will summarise: • all management actions that have been completed in that 12-month period • all monitoring that has been completed and monitoring results • assessment of monitoring results against performance criteria and five-year interim milestones to determine if they are being and or likely to be met • identification of any issues that arose that required intervention or corrective actions to be implemented. The annual report will feed into the annual compliance report which Pembroke is required to submit to DES. The annual report is also an opportunity to summarise findings to feed into the 5-year interim report. The 5-year interim report will be prepared to track the past five years of monitoring and management actions. It will include a more detailed assessment against the performance criteria and five-year interim milestones for that particular project stage, any corrective actions implemented, and any adaptive management learnings will also be discussed. The MMP will be revised post these 5 yearly interim reviews if required.	Non-compliant	This report is the first Annual report to be prepared.
Section 7.2	**Review of MMP** This MMP will undergo formal review at the completion of each project stage to evaluate the effectiveness of the MMP at managing project impacts on MNES and achieving the project's performance criteria interim milestones and environmental outcomes. Formal reviews will commence 12 months prior to the completion of each stage and will be completed no later than 12 months prior to the commencement of each succeeding stage (Stage 2, Stage 3 and Stage 4). Following each review, a revised version of the MMP will be prepared. This will allow for greater specificity and detail regarding the implementation of management measures and Project design elements for each stage of the Project (e.g. project layout, fauna exclusion fencing, livestock fencing, crossings for Greater Glider), to be incorporated. Revising the MMP will also allow for avoidance, mitigation and management measures, as well as monitoring to be updated to reflect previous learnings and best practice methods at the time. Each revised version of the MMP is to be prepared by a suitably qualified person and submitted to the Commonwealth Department of Environment (presently DAWE) for the Minister's approval in accordance with the requirements of condition 78 of EPBC Approval 2017/7867.	Compliant	The MMP was updated in 2024

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
	Each project stage will not be commenced, until the associated revised MMP has been approved by the Minister. i.e. Stage 3 is not to commence until the MMP has been revised to include the necessary information as set out in condition 46 of EPBC Approval 2017/7867 for the purpose of Stage 3, and the revised MMP has been approved by the Commonwealth Minister for the Environment.		
Section 7.3	**Responsibilities** All personnel undertaking Project activities are responsible for adhering to the management strategies outlined within this plan, however, the following are accountable for its implementation: 1. Project Director for initiating formal reviews of MMP 2. Project Environmental Manager for ensuring implementation of prescribed avoidance, mitigation and management strategies for each phase within this plan 3. Project Site Manager for ensuring this MMP is implemented during Project clearing, construction, operation and decommissioning phases 4. Project Environment Manager to review results of the review and ensure corrective actions are implemented in a timely and effective manner 5. Project Environment Manager for record keeping including extents of disturbance for each Phase.	Compliant	All responsible persons are aware of responsibilities under this MMP.
Section 7.4	**Data management** The Pembroke Environment Manager will be responsible for overseeing and managing all monitoring activities and programs required as part of this MMP. This will include maintaining data records to informing how mitigation and monitoring efforts are tracking towards interim milestones as per the requirements of Condition 46(g) of the EPBC Act approval which states that frequency of monitoring must be sufficient to track progress towards each set of milestones, and sufficient to determine whether the milestones are likely to be achieved. Data will include field survey data forms, reports, spatial data, camera footage and photos. If required, this data will be made available to DAWE upon request.	Compliant	Data has been maintained as per the requirements of this MNES plan.

Section of MNES plan	Commitment	Compliance findings	Evidence/comments
Section 7.5	**Incident reporting** Should an incident occur to a MNES such as vehicle strike, or injury or death during vegetation clearing on a threatened MNES species, the Pembroke Environment Manager will be notified within 24 hrs. An internal review of the incident will be undertaken and an incident report prepared within 5 business days of Environment Manager receiving the notification. The incident report will include recommendations as to any corrective actions that may be required to prevent the incident reoccurring. Incidents reports will be included in the annual reports which will be provided to DAWE	Non-compliant	Copies of fauna incident reports have been prepared by FSCs in notification to Pembroke. However, Pembroke have not undertaken an internal review of these incidents. Pembroke will complete an internal review of all MNES deaths to date and submit this alongside the 5 yearly interim report.

6 Monitoring measures

Compliance against commitments relating to monitoring of MNES values is summarised in Section 3.

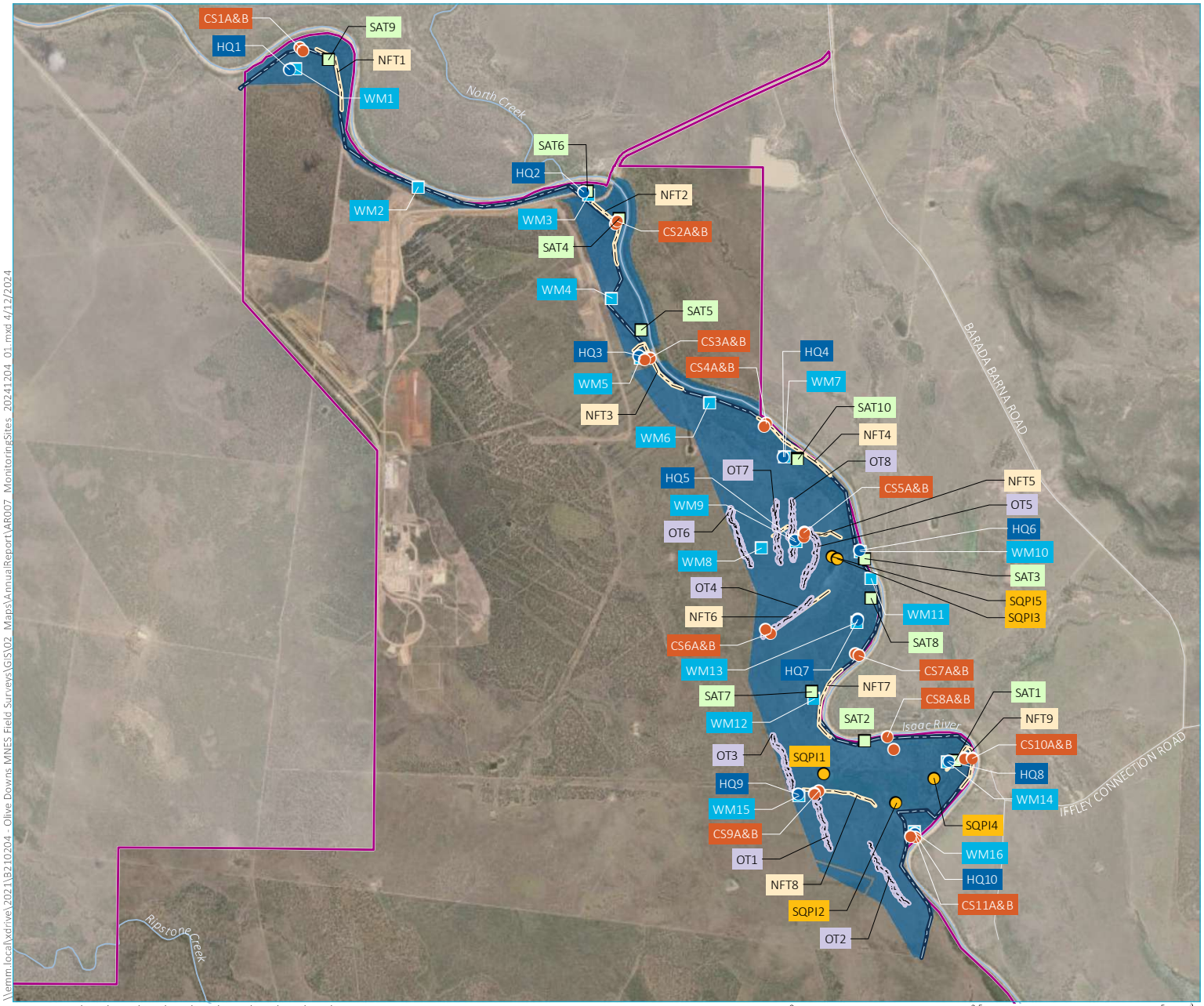
Further detail regarding monitoring measures undertaken is provided in Table 6.1 below. Monitoring sites are shown on Figure 6.1.

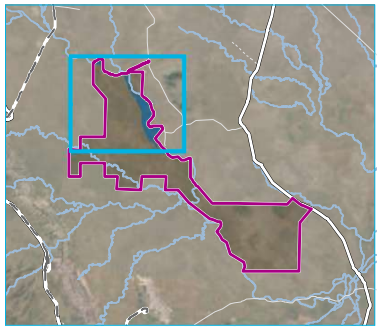
Table 6.1 Monitoring measures for Year 1 of the Project

Monitoring measure	Implemented Y/N	Trigger for corrective action	Assessment against milestones
General			
Undertake general area site inspections	Y	Clearing of MNES species habitat exceeds the approved disturbance limits provided in Table 1.1 of the MMP. Evidence of disturbance to areas outside of approved limits (such as temporary work area or laydown placed outside of permitted area, vehicles going off tracks etc).	No clearing outside of approved clearing limits for MNES species habitat was observed, and no evidence for other habitat disturbance was observed. Pembroke conducts regular general and environmental inspections throughout its work areas to ensure vegetation clearing is conducted within the approved limits as specified in the Ground Disturbance Permit and other relevant environmental controls and monitoring infrastructure is maintained.
Undertake weed monitoring as part of the general site inspections and habitat quality assessments as well as at permanent weed monitoring transects.	Y	New areas of weed outbreaks. Permanent weed monitoring transects show a 20% increase in weed abundance and cover.	Weed Surveys were undertaken, with monitoring sites being established at 16 sites and replicated in 2022 and 2024. Weed densities were generally consistent with baseline surveys in 2021 although ground cover was slightly more abundant due to recent rains. Percentage of weed cover on surveyed plots ranged between 40% to 91% in 2022, with 63% as the average. 21 weed species were recorded at the monitoring sites including three WONS species. One further WONS was observed on site outside of the monitoring sites. Percentage of weed cover on surveyed plots ranged between 32% to 92% in 2023, with 62% as the average. 14 weed species were recorded at the monitoring sites including two WONS species. Percentage of weed cover on surveyed plots ranged between 8% to 96% in 2024, with 64% as the average. 25 weed species were recorded at the monitoring sites including two WONS species. Pembroke conducts regular environmental inspections throughout its work areas to ensure no new weed outbreaks are observed. See Appendix E for the Ecology monitoring reports.

Monitoring measure	Implemented Y/N	Trigger for corrective action	Assessment against milestones
Undertake habitat quality monitoring	Y	Monitoring shows habitat quality scores have decreased from baseline score in >20% of monitoring sites.	Habitat quality scores in 2024 ranged between 3 and 8 out of 10. Two sites had the same score as in the baseline surveys in 2021, four sites had an increase in score, and four sites had a decrease in score. Score decreases are predominantly due to an increase in weed cover. Corrective actions are required to mitigate decline in habitat quality scores. Results are shown in the Ecology Monitoring Report 2022, 2023 and 2024 in Appendix E.
Check delineation of boundaries during clearing works to ensure works have not exceeded these.	Y	Clearing of MNES species habitat exceeds the approved disturbance limits provided in Table 1.1 of the MMP. Evidence of disturbance to areas outside of approved limits (such as temporary work area or laydown placed outside of permitted area, vehicles going off tracks etc).	Pembroke conducts regular general and environmental inspections throughout its work areas to ensure vegetation clearing is conducted within the approved limits as specified in the Ground Disturbance Permit and other relevant environmental controls and monitoring infrastructure is maintained.
Undertake biomass and grass height monitoring on a monthly basis as part of the grazing regime.	N	Fuel loads exceed specified thresholds. An unplanned bushfire occurs.	Grazing has largely been excluded from the Stage 1 area, particularly from vegetation clearing areas and future impact areas. Therefore, monitoring for the grazing regime is not required as part of this stage.
Fauna monitoring			
Pest animal surveys (in conjunction with habitat quality monitoring)	Y	Observed increase in incidental sightings of feral animals. Observation of any MNES species mortality from pest animals such as dog attack on Koala. Pest animal monitoring shows habitat disturbance or degradation is occurring to MNES species habitats such as feral pigs in wetland areas.	Pest have been monitored and observed on site on an incidental basis. Pest animals are also monitored during the habitat quality monitoring surveys. Baseline surveys were completed in 2021, this report can be found in Appendix E. In the 2022 surveys six species of feral animal were observed, with abundance being similar to 2021 surveys. In 2023, six species of feral animal were observed, with abundance being similar to 2021 surveys. In 2024, six species of feral animal were observed, with abundance increased in comparison to 2021 surveys. Pest animals have been managed as per the vertebrate pest management program which has been implemented across the site.

Monitoring measure	Implemented Y/N	Trigger for corrective action	Assessment against milestones
Monitoring of dust deposition	Y	Dust deposition levels exceed limits outlined in the Air Quality management Plan. Visual inspections of vegetation adjacent to the disturbance areas show visible signs of dust deposition.	Ongoing daily checks for dust plumes, machinery and vehicles have been undertaken as well as monitoring of tracks to ensure no excessive dust is being created. See Baseline Monitoring report in Appendix E.
MNES monitoring			
Undertake preclearance fauna surveys at least 3 weeks prior to clearing works commencing. Prior to clearing activities commencing, review preclearance survey results to identify all avoidance and mitigation measures required.	Y	MNES species mortality or injury detected during any phase of the project.	Preclearance surveys have been undertaken prior to vegetation clearing commencing and at the beginning of each day before clearing begins.
Nest box inspection (if 6 months after installation)	Y	Greater Gliders are found not to be utilising the nest boxes after 6 months of monitoring. Damage of the nest boxes, including pest animal occupancy in nest boxes.	500 nest boxes that were purchased in 2022, and 45 natural salvaged hollows have gradually been installed to provide supplementary breeding and sheltering habitat following vegetation clearance within the impact area. Monitoring of nest boxes is required to provide evidence that at least 1% of nest boxes (5 boxes) are being utilised by Greater Glider and therefore demonstrate a level of success. Monitoring also assists in determining if any are damaged and need maintenance, or if other species may be using them. As per MMP requirements, any damaged nest boxes or nest boxes containing pest species will be taken down, fixed and then replaced. Results from nestbox monitoring are summarised in Section 6.1.
MNES utilisation	Y	Should a decline in habitat utilisation by MNES species be observed, the cause will be investigated and detailed in the annual report.	Baseline surveys were undertaken in 2021, to establish abundance of the relevant species along the Stage 1 MMA. Results of these surveys are provided in Appendix E, along with habitat utilisation monitoring from 2022, 2023 and 2024 to allow for comparison.





KEY

- Project area (mine site)
- Isaac River corridor
- Habitat quality monitoring site
- Weed monitoring site

Threatened species monitoring

- Squatter Pigeon remote camera location
- Koala SAT survey location
- Ornamental Snake transect
- Greater Glider/Koala transect

Feral species monitoring

- Remote camera location
- Nocturnal transect

Existing environment

- Rail line
- Major road
- Minor road
- Named watercourse

Monitoring sites

Source: EMM (2024); DES (2024); DR (2024); ESRI (2024); GA (2011)

0 2.5 5 km

GDA 1994 MGA Zone 55

N

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Olive Downs Coking Coal Project
MNES Annual Report
Figure 6.1

EMM
creating opportunities

6.1 Greater Glider Monitoring

Greater Glider monitoring commenced on 19 August 2022. In total 31 Greater Gliders (13 males and 18 females) were captured during clearing operations and were translocated to the retained Isaac River buffer release area.

Of these captured gliders, the following was recorded:

- Translocation distance ranged from 1 - 6km.
- Multiple Greater Gliders regularly utilise nest boxes.
- Multiple Greater Gliders have established new home ranges.
- Original Greater Gliders have been observed positively interacting with resident Greater Gliders on numerous occasions.

6.1.1 Nest boxes

548 nest boxes were installed for the Project. Of these the following was recorded:

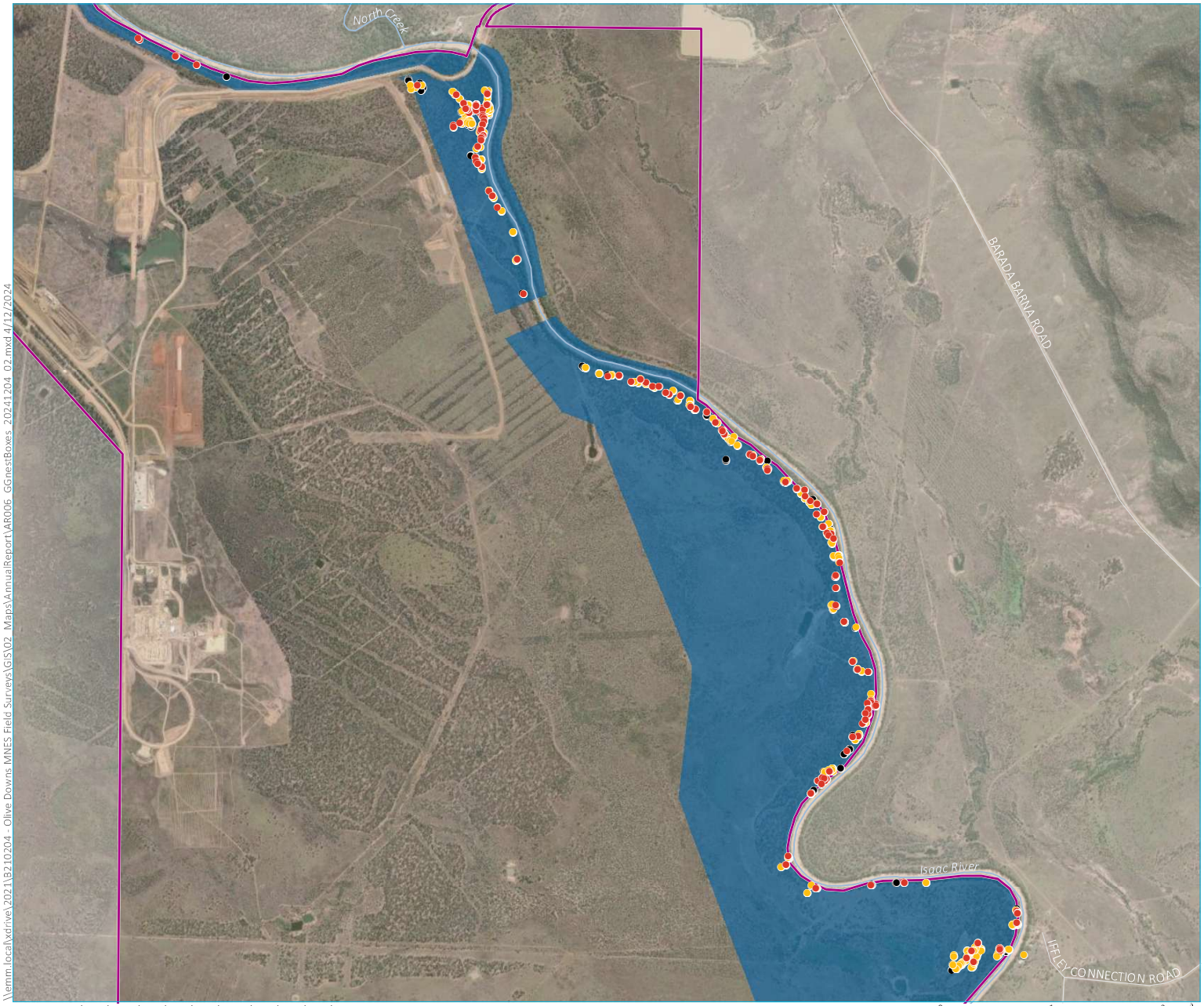
- 500 nest boxes have been installed
- 48 nest logs have been installed.

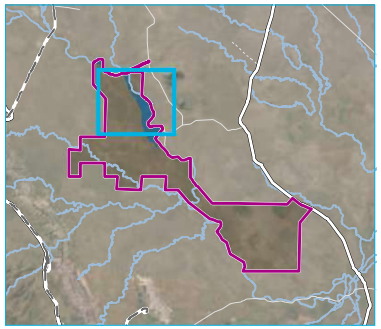
A total of 548 nest boxes have been progressively installed since the commencement of Stage 1 using three types of nestboxes: timber, Cyplas and natural (salvaged hollow). Four rounds of nest box monitoring have been completed with nest box utilization maintained at approximately 10% (10.29%, 9.59%, 12.48%, 10.4%) each round. The four nest box monitoring reports are included in Appendix C.

See Photograph 6.3 and Photograph 6.4 for images of the nest boxes, and Photograph 6.5 for remote camera images of a Greater Glider that appears to be utilising the nest box. See Figure 6.2 for Great Glider nest box locations.

6.1.2 Rope crossings

Two rope crossings have been installed in 2024 – no data is available yet due to recent installation. See Figure 6.2 for Great Glider rope crossing locations.





KEY

- Project area (mine site)
- Isaac River corridor

Nest box locations

- Greater Glider
- Other species
- Unoccupied

Existing environment

- Rail line
- Major road
- Minor road
- Named watercourse

Source: EMM (2024); DES (2024); DR (2024); ESRI (2024); GA (2011)

0 1 2 km

GDA 1994 MGA Zone 55

N

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Greater Glider nest box locations

Olive Downs Coking Coal Project
MNES Annual Report
Figure 6.2

EMM
creating opportunities

Photograph 6.1 Greater Glider collaring

Photograph 6.2 Greater Glider wearing tracking collar

Photograph 6.3 **Installed Greater Glider nest box**

Photograph 6.4 **Installed Greater Glider nest box from a salvaged hollow**

Photograph 6.5 Greater Glider utilising EMM nest boxes

6.2 Koala Monitoring

Koala monitoring commenced on 22 April 2022, since then 52 koalas have been captured (27 males and 25 females of which 15 have had joeys).

Of these monitored Koalas, the following was recorded:

- 24 Koalas are currently being monitored
- 5 Koalas dispersed from the project area
- 11 confirmed Koala deaths
- 11 Koalas (5 male and 6 female) have dropped all tags and were unable to be located for re capture
- 2 male Koalas have dropped collars and then their VHF tags have failed, both of which were unable to be located for re capture
- 3 Koalas (Garth, Nigel and Sean) have had all tags removed due to the proximity to project area and are no longer monitored in the project
- No koalas have been impacted by site operations to date

- Dispersal (from site) events recorded so far include 15.7 km by a female individual (Claudia) and approximately 12 km and 23 km by two different males (Lincoln and Garth). These distances are calculated from their point of capture to final capture and de-collaring location or current location if still being monitored (i.e. Lincoln). Male koala Garth had the largest dispersal distance of 23 km to date (from March-July 2023) but his actual dispersal track/distance covered totalled 53 km.

- 13 Koalas (5 male and 8 female) have tested positive to chlamydia. All cases were treated and the affected individuals continued to be monitored in the wild. Two females have been de-sexed due to reproductive disease but are otherwise healthy. The population is considered to be an overall healthy population compared with other monitored populations.

7 Incidents recorded

7.1 Issues identified and new environmental risks

It was a requirement of the MMP that a mandatory internal review of any injury or death involving a MNES species during vegetation clearing was to be notified via an incident report prepared by the Pembroke Environment Manager. The incident report should outline any corrective actions required to prevent the incident from reoccurring.

Copies of fauna incident reports have been prepared by fauna spotter catchers in notification to Pembroke. However, Pembroke have not yet undertaken an internal review of MNES deaths. Pembroke will complete an internal review of all MNES deaths to date and submit this alongside the 5 yearly interim report.

The FSC fauna incident reports from 2022 and 2023 have been included in Appendix B. These incident reports include records of 10 MNES deaths including six Ornamental Snakes resulting from clearing activities, two Greater Gliders caught in barbed wire (one inside the Issac River corridor) and two Squatter Pigeons hit by cars on IMA Rd.

8 References

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