Jimblebar Hub Significant Amendment: Response to Submissions ADDENDUM

Table A: Additional responses to comments, received 5 to 8 August 2025

<table>
<tr><th>Comment number</th><th>Date received</th><th>EPA Services Comment</th><th>BHP response</th></tr>
<tr><td>1</td><td>5/8/2025</td><td>Please confirm the numbers of priority flora individuals in the development envelope, numbers to be impacted by the significant amendment and the proposal (both the significant amendment and approved proposals) below:

<table>
<tr><th>Priority species</th><th>No of individuals in development envelope</th><th>No of individuals to be impacted (significant amendment)</th><th>Combined impact of individuals (proposal)</th></tr>
<tr><td>Eremophila capricornica (P1)</td><td>141</td><td>93</td><td>117</td></tr>
<tr><td>Rhagodia sp. Hamersley (M. Trudgen 17794) (P3)</td><td>145</td><td>22</td><td>138</td></tr>
<tr><td>Triodia sp. Mt Ella (M.E. Trudgen 12739) (P3)</td><td>82</td><td>14</td><td>15</td></tr>
<tr><td>Acacia corusca (P1)</td><td>95</td><td>95</td><td>95</td></tr>
<tr><td>Hibiscus aff campanulatus</td><td></td><td></td><td></td></tr>
</table></td><td>BHP provided calculations of individual priority flora in the Development Envelope, Indicative Footprint, combined impact and known in the Pilbara. See Attachment A.</td></tr>
<tr><td>2</td><td>5/8/2025</td><td>Please provide the number of individuals of Hibiscus aff campanulatus in the development envelope and in the vicinity of the development envelope (region) and individual</td><td>BHP provided calculations of individual Hibiscus aff. Campanulatus in the Development Envelope,</td></tr>
</table>

		numbers proposed to be impacted by the significant amendment and the approved proposals. Please also provide a shapefile of the individual locations of *Hibiscus aff campanulatus* in the development envelope and any locations outside the development envelope.	Indicative Footprint, combined impact and known in the Pilbara. See **Attachment A**. BHP provided the shapefiles of all known *Hibiscus aff. Campanulatus* records.
3	6/8/2025	Provide any avoidance measures for individuals located in the development envelope	BHP designed the Significant Amendment to utilise existing cleared areas as far as practicable, including for in-pit tailings storage and haul road design. This minimised overall clearing required. BHP maintains the existing commitment to avoid impact to all *Acacia corusca* records. Based on the known records, the Significant Amendment will not impact more than 10% of known records of any priority flora.
4	6/8/2025	Please confirm the below 2 statements are correct: • Caves CJIM-09 and CJIM-20 were assessed as part of the approved proposal (MS 1126), however BHP have applied a 100 m MEZ over these caves, which will not be cleared as part of the approved proposal (MS 1126). • The only cave which may be cleared for the proposal (significant amendment and approved proposal) is cave CJIM-04, which does not have an MEZ.	A 100m buffer will be applied to caves CJIM-09 and CJIM-20 to ensure these caves are retained and protected. CJIM-04 is outside of the Indicative Footprint, but does not have a buffer and therefore has the potential to be impacted. Based on the current design, it is located approximately 80m from an overburden storage area. BHP updated and provided the Jimblebar Terrestrial Fauna EMP to correct an error in the Appendix. See **Attachment B**.
5	8/8/2025	Please clarify / define what the 'Area within BHP Consolidated Mapping (ha)' is in table 9-5 of the ERD? Is there a map showing where this area is or can you provide an idea of where it is in relation to the development envelope?	BHP maintains a GIS layer of consolidated biodiversity mapping across much of its WAIO operations. BHP provided a map of the consolidated fauna habitat mapping. See **Attachment C.**
6	8/8/2025	Are you able to confirm whether *Conothele* sp. MYG279 was recorded in Stony Plain habitat? It's a bit hard to see on figure 9-7.	The *Conothele* sp. MYG279 was recorded in a small drainage foci within Stony Plain habitat. This record is outside of the Indicative Footprint and is not proposed to be directly impacted.

		Also confirming if the 4 records for the species in the Pilbara in table 9-7 is correct? I note that there is only 1 record within 100 km of the DE in Att 5, table 1 in the RTS.	At the time of the referral in December 2023, there was a total of four records of *Conothele* sp. MYG279 in the Pilbara. In July 2025, a further five records were reported in the Pilbara, outside of the Development Envelope, including three in the Yandi Development Envelope and two at Jinidi. The records at Yandi are outside of active mining areas and disturbed areas. These records were received following the submission of the Yandi E8 Significant Amendment to the EPA in May 2025. These new records suggest that the species has a far greater distribution than previously understood. It is likely that additional records exist between Jimblebar and Yandi and Jinidi.

Attachment A Predicted impacts to Priority flora

Priority species	Records (individuals) in the Pilbara and Gascoyne	No. of records (individuals) in development envelope	No. of individuals to be impacted (significant amendment Indicative Footprint)	Records and individuals in previously assessed areas (MS439, 1012 and 1126)	Combined impact on records (individuals) for the Combined proposal
Eremophila capricornica (P1)	1148 (34019)	141 (6646)	93 (4468)	21 (892)	114 (5360)
Rhagodia sp. Hamersley (M. Trudgen 17794) (P3)	2590 (2573)	145 (272)	22 (55)	113 (189)	135 (244)
Triodia sp. Mt Ella (M.E. Trudgen 12739) (P3)	449 (58698)	80 (50466)	14 (9000)	1 (1)	15 (9001)
Acacia corusca (P1)	95 (389)	12 (159)	0 (0)	0 (0)	0 (0)
Hibiscus aff campanulatus	1334 (55674)	22 (417)	15 (245)	0 (0)	15 (245)

Attachment B Jimblebar Terrestrial Fauna EMP

BHP

Jimblebar Hub Terrestrial Fauna Environmental Management Plan

August 2025
Version 1.3

Version Control

Version	Description	Key changes	Date
Version 0	Draft version for Traditional Owner review	Original document	10/09/2023
Version 1	Final version submitted with referral of Jimblebar Hub Significant Amendment	Minor amendments to management approach text; additional rationale included for choice of management actions; update to reporting requirements	07/12/2023
Version 1.1	Updated version to align with commitments in the Jimblebar Significant Amendment Validation Notice	Minor update to monitoring targets for Ghost Bat	12/08/2024
Version 1.2	Updated version for submission to DWER/EPAS.	Monitoring of cave CJIM-20 removed from Section 2 due to heritage restrictions and amended Ghost Bat cave buffers	27 May 2025
Version 1.3	Updated Appendix 1 – Ghost Bat buffers	Update to Ghost Bat buffers	6 August 2025

Abbreviations and Definitions

Term	Meaning
AER	Annual Environment Report
BHP	BHP Iron Ore Pty Ltd
CEO	Chief Executive Officer The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the *Environmental Protection Act 1986*, or the CEO's delegate
Clearing	As defined in section 51A of the *Environmental Protection Act 1986*
DWER	Department of Water and Environmental Regulation
EMP	Environmental Management Plan
EPA	Environmental Protection Authority
EP Act	*Environmental Protection Act 1986*
TFEMP	Terrestrial Fauna Environmental Management Plan
GIS	Geographic Information System
MS	Ministerial Statement

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Summary

Jimblebar Terrestrial Fauna Environmental Management Plan	
Proposal name	Jimblebar Hub Iron Ore Mining Operations
Proponent name	BHP Iron Ore Pty Ltd
Ministerial Statement	XXXX
Purpose of the EMP	To meet the requirements of implementation Condition B3-3 (Terrestrial Fauna Environmental Management Plan) of Ministerial Statement XXXX
Key environmental factors and EMP objectives	**Terrestrial Fauna** (1) avoid and minimise direct impacts on Ghost Bat and their roost habitats within the Development Envelope
Condition clauses	Condition B3 Terrestrial Fauna (B3-2 and B3-3)
Key components of the plan	Objective-based components to avoid and minimise direct impacts on Ghost Bat and their roost habitats
Proposed construction date	Not applicable. Approved proposals are in operations (Jimblebar Iron Ore Project - Revised Proposal, Orebody 31 Iron Mine and Orebody 18 Iron Ore Mine)
EMP required pre-construction?	Not applicable - required for multiple approved proposals which are in operations

1 Context, scope and rationale

BHP Iron Ore Pty Ltd (BHP) has prepared this Jimblebar Hub Terrestrial Fauna Environmental Management Plan (TFEMP) to meet the requirements under Part IV of the *Environmental Protection Act 1986* (EP Act). The plan is submitted as a draft with the referral documentation for the *Jimblebar Hub Iron Ore Mining Operations Significant Amendment* (BHP 2023) and may be updated during the assessment period. The intent is for the TFEMP to meet the requirements of Ministerial Statement XXXX (MSXXXX) Condition B3-3 Terrestrial Fauna Environmental Management Plan, should the Significant Amendment be approved for implementation.

BHP has prepared this TFEMP to be consistent with the *Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans* (the Instructions) (EPA 2021).

1.1 Proposal

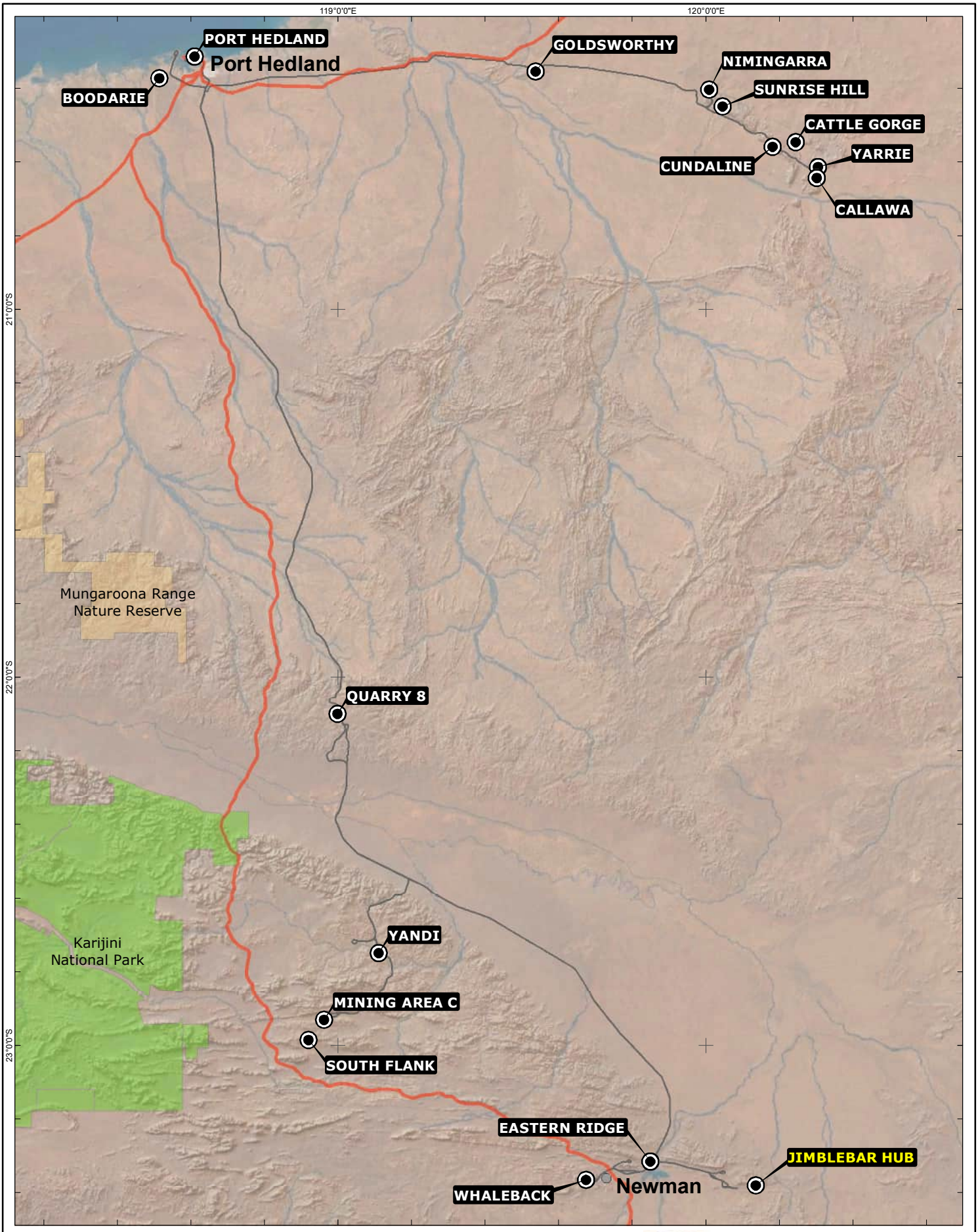
The scope of the TFEMP is the management of Terrestrial Fauna values at the Jimblebar Hub.

The Jimblebar Hub is located approximately 40 kilometres (km) east of Newman (Figure 1). The Jimblebar Hub comprises existing operations at Jimblebar, Orebody 31 and Orebody 18, currently approved under Part IV of the EP Act by MS1126, MS1021 and MS439 (as amended by MS1012) (Approved Proposals) (Figure 2).

The Jimblebar Hub Iron Ore Mining Operations Significant Amendment (the Proposal) includes an expansion of existing mining operations (Figure 2), including but not limited to the extension of above and below water table mining at Jimblebar East, new overburden storage areas (OSAs) north of Jimblebar East, and new haul roads and creek crossings (Jimblebar Creek).

The Proposal includes the additional clearing of 2,067 ha of native vegetation (including 814 ha critical foraging habitat for Ghost Bat). The assessment concluded that there may be the potential for direct impacts on Ghost Bats and their roost habitats.

The Proposal also includes the amalgamation of the Approved Proposals for the Jimblebar, Orebody 31 and Orebody 18 mines. BHP has requested that one new MS is issued for the Amended Proposal (Approved Proposals as amended by the Significant Amendment) (BHP 2023a). Therefore this TFEMP addresses the management of terrestrial fauna for the Amended Proposal.



BHP mine
National Park
Nature Reserve
Highway
Rail

N

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KILOMETRES
GCS GDA 1994

BHP

PUBLIC

JIMBLEBAR HUB
TERRESTRIAL FAUNA
ENVIRONMENTAL MANAGEMENT PLAN
Regional location

PLANNING & STANDARDS - IRON ORE

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DATE:	13/11/2023	REQUESTOR:	ENV. APPROVALS	NO:	A1021/065B

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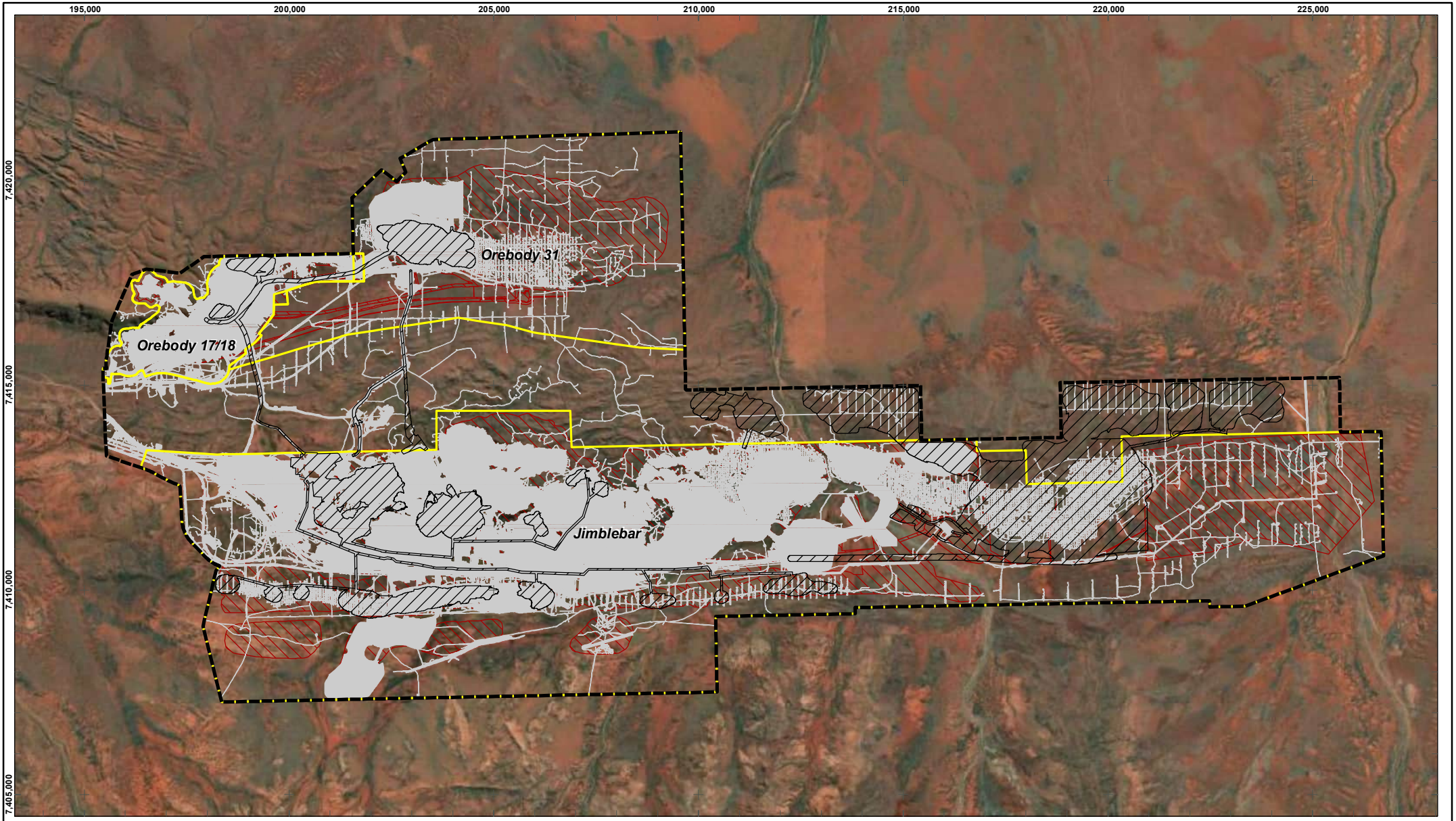

- Proposed Development Envelope
- Indicative Footprint
- Indicative Cleared Area as at FY2022
- Previously Assessed Areas
- Approved Proposal Ministerial Statement boundaries

N

0 1 2 3 4

KILOMETRES

GDA 1994 MGA ZONE 51

BHP

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JIMBLEBAR HUB
TERRESTRIAL FAUNA
ENVIRONMENTAL MANAGEMENT PLAN

Proposed Development Envelope
and Indicative Footprint

PLANNING & STANDARDS - IRON ORE

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DATE:	16/11/2023	REQUESTOR:	ENV. APPROVALS	NO:	1021/067B

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1.2 Key environmental factors

The key environmental factor relevant to this TFEMP is Terrestrial Fauna. Table 1 describes the environmental values, activities and potential impacts on Terrestrial Fauna addressed in this TFEMP.

Table 1: Key environmental values, activities and potential impacts

Key environmental factor	Environmental values	Proposal activities	Actual/ Potential impacts[1]
Terrestrial Fauna	Significant terrestrial vertebrate fauna (Ghost Bat) and their habitat	Direct clearing of native vegetation for mining and associated activities within the Development Envelope	**Direct impacts** Potential loss of Ghost Bat Category 4 roost caves
		Use of barbed wire fencing within the Development Envelope	**Direct impacts** Potential injury or mortality of Ghost Bats from entanglement in barbed wire fencing

1.3 Condition requirements

BHP has provided the condition requirements of MS XXXX Condition B3-3 Terrestrial Fauna Environmental Management Plan in the previsions table (Section 2), which the Instructions allow for, if there are multiple conditions and/or condition clauses.

Condition C1-6 of MSXXXX requires publication of EMPs. BHP will publish the endorsed TFEMP on the BHP website and provide to Department of Water and Environmental Regulation (DWER) in a suitable electronic form for online publication, to meet the condition requirements.

1.4 Rationale and approach

As required by the Instructions, this section provides a concise description of the rationale and approach for the components (referred to as 'provisions' in previous versions of the Instructions) in this TFEMP.

1.4.1 Management approach

BHP uses a regional and site-specific approach to manage the impacts of its operations on environmental values. BHP applies the following approach to EP Act Part IV EMPs:

- Sub-regional level EMPs are developed to manage potential impacts to regional environmental values (e.g. Ethel Gorge Aquifer Stygobiont Community Threatened Ecological Community) from multiple BHP hubs.
- Site level EMPs are developed to manage potential impacts to local environmental values from one BHP mine/hub.

As outlined in Section 1.1, this TFEMP addresses the management of terrestrial fauna for the Amended Proposal, which includes the amalgamation of the Approved Proposals for the Jimblebar, Orebody 31 and Orebody 18 mines (approved under MS1126, MS1021 and MS439 (as amended by MS1012)). There were no specific terrestrial fauna management actions in the MSs for the Approved Proposals, beyond standard management practices, to incorporate into this TFEMP.

For this TFEMP, BHP applied a risk-based approach to identify and prioritise the components of this TFEMP. The purpose of the components is to protect the environmental values identified in Table 1. In developing the

components, BHP has used available scientific information from recent targeted investigations and has applied learnings from the management of terrestrial fauna at other BHP and third party mine sites in the Pilbara.

1.4.2 Rationale

Table 2 describes the rationale for the TFEMP components in Section 2, including:

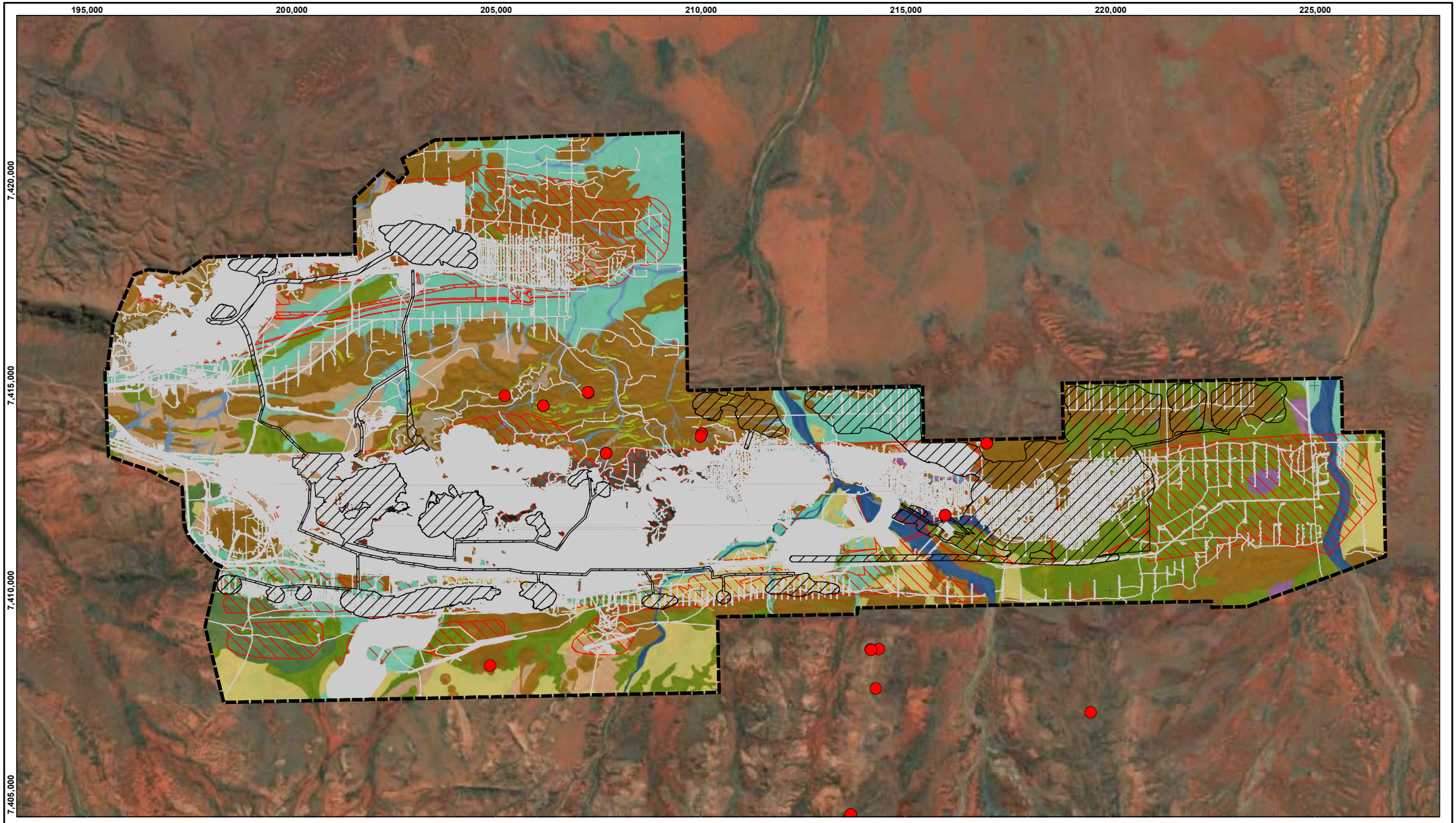
- management objectives
- survey and study findings
- key assumptions and uncertainties
- rationale for choice of management actions.

Table 2: Rationale for TFEMP Components

Surveys and studies	Survey and study findings	Key assumptions and uncertainties	Risk-based approach and rationale for choice of management actions
Value: Ghost Bat and their habitat within the Development Envelope **Objective:** Avoid and minimise direct impacts on Ghost Bat and their roost habitats within the Development Envelope			
Ghost Bat surveys/studies *Eastern Pilbara Ghost Bat Monitoring Program 2022-2023* (Biologic 2025a) *Western Ridge and Jimblebar Ghost Bat Monitoring Program 2021-2022* (Biologic 2023a) *Eastern Pilbara Ghost Bat Cave Categorisation* (Biologic 2023b) *Jimblebar Targeted Ghost Bat Survey* (GHD 2021) *A review of ghost bat ecology, threats and survey requirements* (Bat Call WA 2021) **Terrestrial Fauna surveys/studies**[1] *Jimblebar Wind Power 2030 Targeted Vertebrate Fauna Survey* (Biologic 2025b) *Mesa Gap Targeted Vertebrate Fauna Survey* (Astron 2023) *Jimblebar Greenhouse Gas Abatement Study Basic Vertebrate Fauna Survey* (Biologic 2020) *Caramulla Miscellaneous Licence Level 1 and Targeted Vertebrate Fauna Survey* (Biota 2020) *North Jimblebar Fauna Survey* (GHD 2019a) *Jimblebar East and Caramulla Fauna Survey* (GHD 2019b) *Shearers West Targeted Vertebrate and Short-range Endemic Invertebrate Fauna Assessment* (Biologic 2019) *Jimblebar North Level 1 Vertebrate Fauna Survey* (Onshore Environmental 2019) *Caramulla Level 1 Vertebrate Fauna Assessment* (Biologic 2018)	**Ghost Bat** • Ghost Bat is listed as Vulnerable under the *Biodiversity Conservation Act 2016* and the *Environment Protection and Biodiversity Conservation Act 1999*, and is a Matter of National Environmental Significance. • Evidence of the Ghost Bat has been recorded from 19 records from within the Development Envelope (Figure 3). Seventeen of the records are associated with cave locations (seven records of scats, six record with ultrasonic calls from an individual, three motion-activated camera records of individuals and one record of foraging evidence), and the remaining two records comprise a foraging individual from within a drainage line and potential feeding evidence at an overhang. **Fauna habitat** • Eleven (11) fauna habitat types have been described and mapped within the Development Envelope (Figure 4): – Breakaway/ Cliff (0.5%) – Claypan (0.4%) – Drainage Area/ Floodplain (12.2%) – Gorge/ Gully (0.7%) – Hardpan Plain (1.6%) – Hillcrest/ Hillslope (27.4%) – Major Drainage Line (2.0%) – Minor Drainage Line (1.3%) – Mulga Woodland (13.5%) – Sand Plain (5.7%) – Stony Plain (4.9%). • These habitat types are not considered regionally significant as they are broadly distributed and well represented across the Pilbara and Gascoyne bioregions. • Critical Ghost Bat foraging habitat within the Development Envelope has been identified as habitats that contain perch trees, and include Drainage Area/ Floodplain, Major Drainage Line, Minor Drainage Line and Mulga Woodland, where they occur within 12 km of the two Category 2 roosts (CJIM-03 and CNIN-03) (Figure 4). Note that these two caves occur outside of the Development Envelope. • No formally recognised Threatened or Priority Ecological Communities have been recorded from within, or adjacent to, the proposed Development Envelope. **Habitat features** • Twelve (12) cave structures have been identified within the Development Envelope (Figure 4). The caves are located within the microhabitats of the broader Hillcrest/Hillslope habitat types, specifically Gorge/Gully or Breakaway/Cliff habitats. • Of the 12 caves:	**Assumptions** • Given the extensive survey and monitoring effort over the Development Envelope and surrounding area, it is considered that Ghost Bat is likely to occur within the Development Envelope have been identified, and all habitat types and habitat features (i.e. caves) that occur have been mapped. • Access to all caves for monitoring may not be possible due to safety constraints or heritage restrictions, and as such, the caves listed are provisional only. • Disturbance to a cave is considered to be a change or alteration to the cave which renders it unsuitable for Ghost Bat utilisation. • A ground disturbance buffer of a minimum of 50 m from caves with evidence of usage by Ghost Bat is sufficient to prevent flushing of bats from caves based on studies undertaken to date. • Activities that will be permitted within a Ghost Bat cave buffer include minor works to maintain light vehicle access or culverts. Any mining activity including clearing, blasting or other excavations for non-mining related activities will be excluded from these buffers to avoid impacts to Ghost Bats and their habitats. **Uncertainties** • Natural variation of the Ghost Bat population in the Pilbara and sub-regions (Hamersley and Chichester) is currently unknown. Further seasonal and annual Ghost Bat monitoring data is required to determine natural variability in population size and cave usage. • Ghost Bats are known to move between caves, such that not all caves will be utilised at all times. It is not known what the underlying factors are for these absences.	**Type of components** BHP has chosen objective-based components, as the potential direct impacts are able to be avoided or minimised through appropriate management actions. A sufficient understanding of the population dynamics or population size/occurrence of Ghost Bat does not yet exist at Jimblebar Hub; thus, outcomes-based components based on population size cannot yet be developed. **Choice of management actions** Management actions and targets focus on the management of and prevention of unauthorised physical clearing of habitat. Management actions and targets will be used to improve our understanding of the population dynamics and size/occurrence of Ghost Bat from which outcome-based components may be able to be developed in the future. <u>Physical clearing of habitat</u> The key risk to Ghost Bat at Jimblebar Hub is potential loss of roost caves and critical foraging habitat from direct clearing of native vegetation. The management actions and targets (Table 3) minimise this risk by avoiding and minimising disturbance to certain caves and surrounding habitats through the implementation of cave buffers. BHP considers that its internal land disturbance permit process is an appropriate tool to manage clearing, to minimise impacts to Ghost Bat roosts and foraging habitats. Maintenance of current GIS spatial layers for regulatory requirements (including any mining buffers around Ghost Bat caves) is key to minimising the risk to Ghost Bat from the loss of roost and/or critical foraging habitat by ensuring that clearing remains within defined limits and extents. <u>Pre-disturbance roost inspections</u> Buffers have been applied to a number of Ghost Bats roosts within the Jimblebar Hub Development Envelope, as identified in Appendix 1 (buffers applied under Condition B3-1 of MSXXXX) (Figure 5). If disturbance is required to a cave that falls outside the buffers, BHP proposes to implement pre-disturbance roost inspections to confirm the absence of Ghost Bats prior to cave disturbance/ impact. The cave will be inspected prior to disturbance. If Ghost Bats are present, they will be displaced during the evening/ night. If the bats are considered likely to re-enter the cave and if the cave entrance is of suitable structure/dimensions, the cave entrance will be sheeted. Disturbance to caves will occur during daylight hours when bats are unlikely to be present (as the caves are not suitable for diurnal roosting). <u>Use of barbed wire fencing</u> An identified risk of injury or mortality to Ghost Bats is from the entanglement in barbed wire fencing. To reduce this risk, BHP proposed to only use barbed wired fencing where it is required by legislation. Where barbed wire fencing is required, it will be installed with single strand top wire and bat reflectors. Bat reflectors aim to minimise the risk of entanglement by making the fence line detectable to foraging bats. <u>Improvement of knowledge of Ghost Bat population dynamics, abundance and cave usage</u> Monitoring of the local Ghost Bats population and their roosts within the Jimblebar Hub and surrounds commended in September 2021 (Biologic 2023). BHP proposes to continue this monitoring programme based on retained and buffered Ghost Bat caves (which are able to be accessed), to monitor Ghost Bat presence and to detect any temporal changes in abundance. This data collection may enable the development of outcomes-based components in future reviews of this TFEMP.

Surveys and studies	Survey and study findings	Key assumptions and uncertainties	Risk-based approach and rationale for choice of management actions
	– Three (3) are classified as Category 3 roosts (CJIM-09, CJIM-14 and CJIM-21) – Nine (9) are classified as Category 4 roosts. • No Category 1 or 2 roosts occur within the Development Envelope. • There are an additional 14 caves located adjacent (within 5 km) to the Development Envelopment, of which, two are classified as Category 2 roosts, seven as Category 3 roosts and the remaining five as Category 4 roosts. • Eleven (11) water features have been mapped within the Development Envelope (Figure 4), comprising Innawally Pool (semi-permanent), an artificial water feature and nine temporary small surface water pools forming in Gorge/ Gully or Mulga Woodland habitats following rainfall. **Mining activities and interaction with Ghost Bats** Examples of outcomes of studies related to mining activities and interaction with Ghost Bats are summarised below: • Bat Call WA (2017) assessed Ghost Bat caves within Rio Tinto's Robe Valley to determine the impact of mining on Ghost Bat presence. Bat Call WA (2017) concluded that the retention of a façade greater than 20 metres (m) around the mesa perimeter will result in no loss of roosts. Rio Tinto have committed to retain a 40 m mining exclusion zone between the back of each cave and the proposed mine pit to protect the integrity of roosts. • Process Minerals International's Poondano Iron Ore Project applied a minimum buffer zone of 50 m from a Ghost Bat cave. Ghost Bats were recorded in this cave during 2009 and following the commencement of mining in 2012 they were subsequently recorded in this cave in 2012, 2013, 2014 and 2015 (Rio Tinto 2017). • At BHP Goldsworthy operations a long-term (10 year) study of Ghost Bats and Pilbara Leaf-nosed Bats (*Rhinonicteris aurantia*) was undertaken at a cave located approximately 400 m from an active pit (Gleeson & Gleeson 2012). This study showed no change in bat activity for either species over the duration of the monitoring.		Monitoring of Ghost Bat caves will avoid the Ghost Bat breeding period (i.e. late pregnancy and pre-weaning - October to December), when pregnant females and juveniles may be present. A risk-based site selection for caves suitable for Ghost Bat monitoring has considered: • the value of the Ghost Bat cave (e.g. Category 3 roosts of higher value than Category 4 roosts) • the frequency of usage of the cave by Ghost Bats – site selection will target caves more frequently used by Ghost Bats • site access restrictions due to safety and or heritage concerns. Caves are monitored based on their roost category, with caves considered to be most suitable for Ghost Bat occupation proposed to be monitored more frequently. As a general rule, Category 3 roosts will be monitored at least annually and the retained Category 4 roosts will be monitored biennially. It is assumed that should high activity be indicated at these caves between monitoring events, the monitoring frequency and roost category may need to be reviewed. A range of monitoring techniques are implemented based on the roost category and/or access to each cave. These monitoring techniques may include: • scat collection and analysis - determine presence and absence, deposition rates, genetic analyses (to determine individual genotypes and genetic diversity), population estimates, hormone analyses (to identify visitation by pregnant females) and use of caves across the local area • ultrasonic recording and motion cameras • roost microclimate analysis (e.g. temperature and humidity) • trapping and tagging of Ghost Bats to increase our understanding of the species (e.g. foraging habitat, flight distances / heights, etc.).

1. Only surveys from the past five years are listed (i.e. surveys undertaken since 2018). Refer to Appendix 11 of the *Jimblebar Hub Iron Ore Mining Operations Significant Amendment* (BHP 2023) for a full list of vertebrate fauna surveys/studies undertaken for the Jimblebar Hub.



Proposed Development Envelope
Indicative Footprint
Indicative Cleared Area as at FY2022
Previously Assessed Areas
Ghost Bat (*Macroderma gigas*)

Habitat type

Breakaway/ Cliff
Claypan
Drainage Area/ Floodplain
Gorge/ Gully
Hardpan Plain
Hillcrest/ Hillslope
Major Drainage Line
Minor Drainage Line
Mulga Woodland
Sand Plain
Stony Plain

N

0 1.5 3 4.5 6
KILOMETRES

GDA 1994 MGA ZONE 51

BHP

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JIMBLEBAR HUB
TERRESTRIAL FAUNA
ENVIRONMENTAL MANAGEMENT PLAN
Ghost Bat records in the Development Envelope

PLANNING & STANDARDS - IRON ORE

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DATE:	15/11/2023	REQUESTOR:	ENV. APPROVALS	NO:	1021/068A

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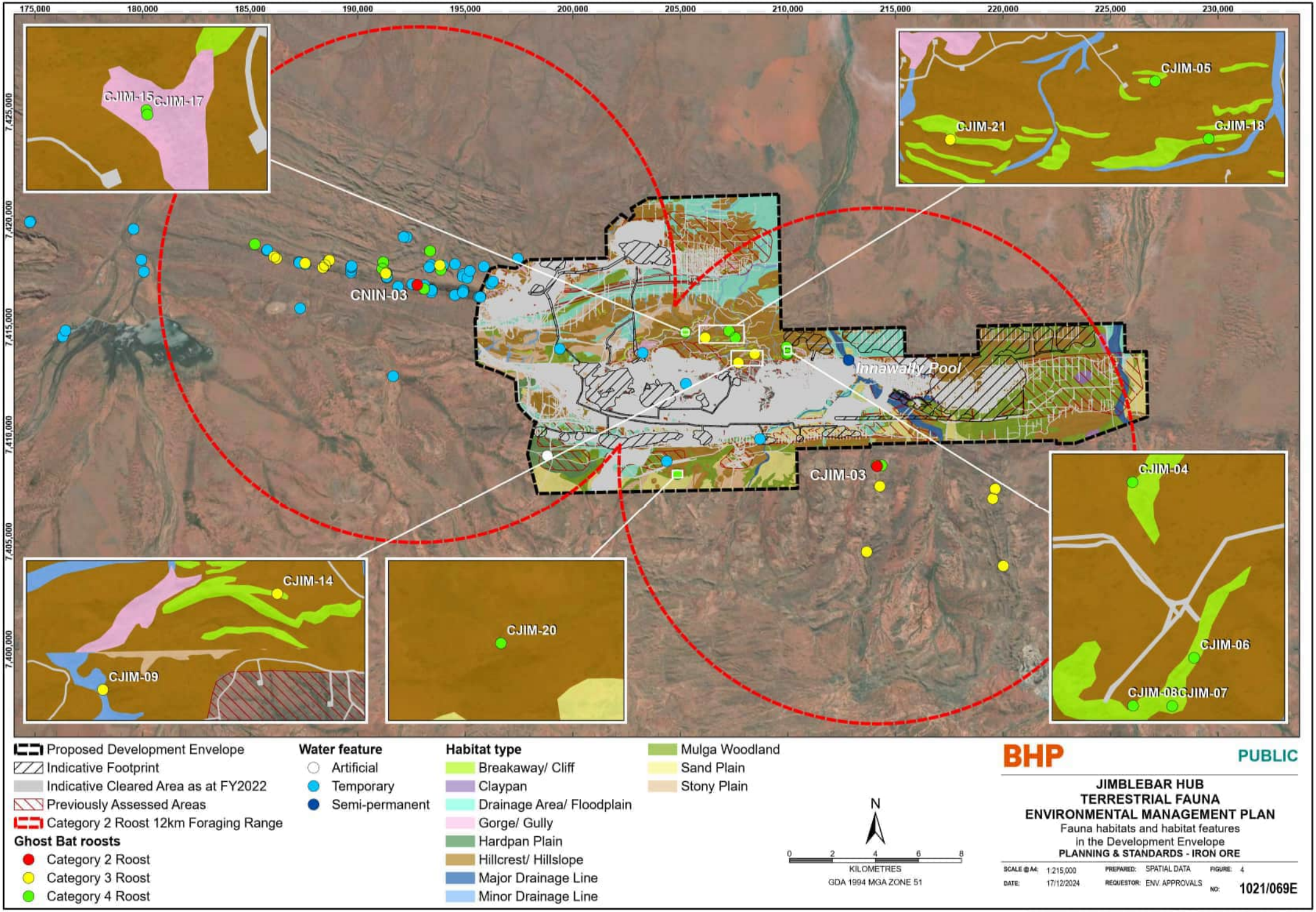

BHP

PUBLIC

JIMBLEBAR HUB TERRESTRIAL FAUNA ENVIRONMENTAL MANAGEMENT PLAN

Fauna habitats and habitat features in the Development Envelope

PLANNING & STANDARDS - IRON ORE

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2 EMP Components

BHP has provided detail of the TFEMP components in Table 3, as per the preferred approach outlined in the Instructions. BHP has not used the ‘Schedule’ approach (which the Instructions state may be used), as this TFEMP covers only one operation. BHP may adopt the ‘Schedule’ approach in future for this TFEMP, should additional activities, operations or Ministerial Statements apply.

Table 3: Objective-based components

Purpose: To meet requirements of Condition B3-3 of Ministerial Statement XXXX

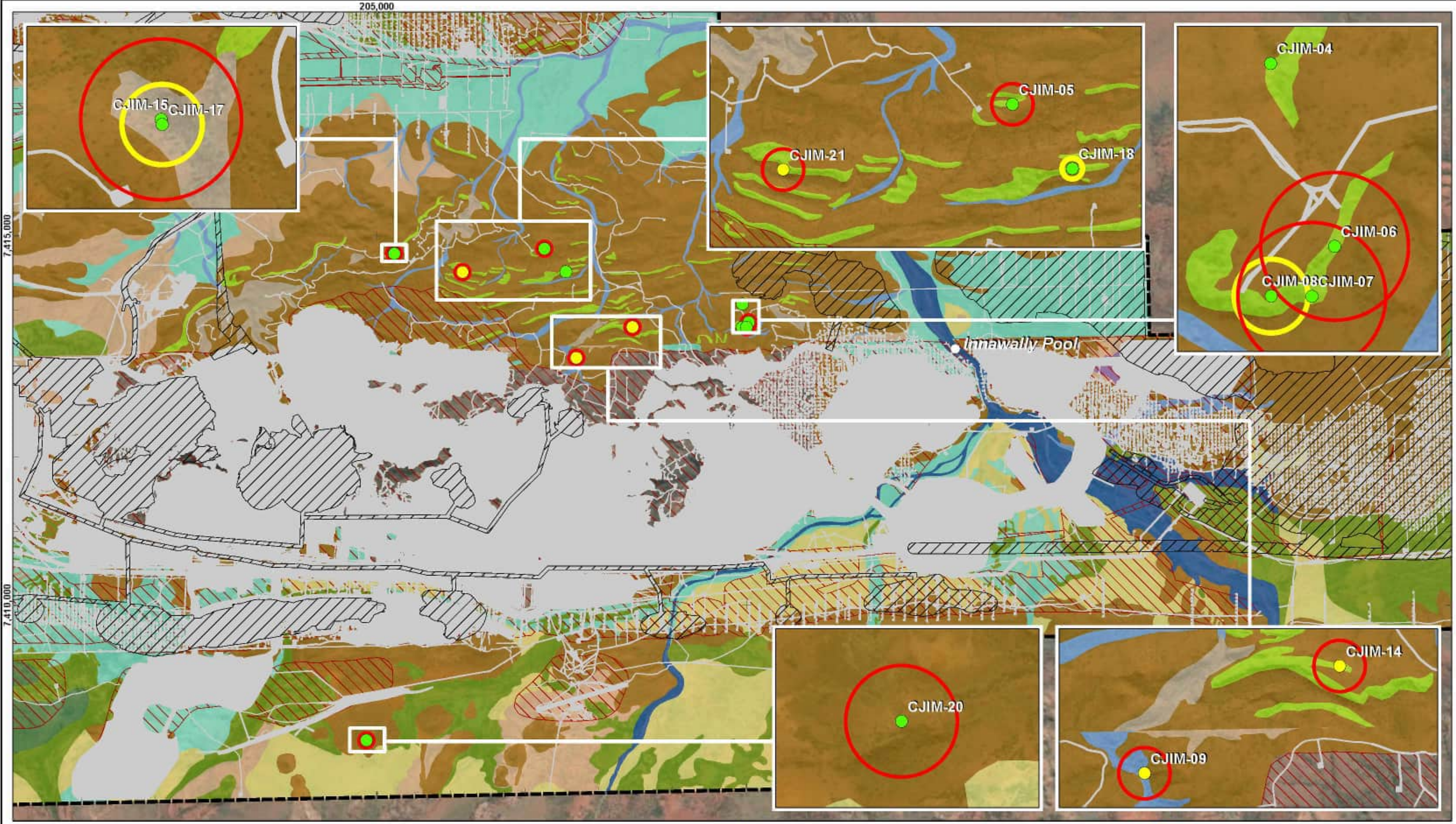
Rationale: Objective-based components to meet the intent of Condition B3-2

EPA factor and objective:	**Terrestrial Fauna** – to protect terrestrial fauna so that biological diversity and ecological integrity are maintained
Key environments values:	Ghost Bat and their habitat within the Development Envelope
EMP objectives:	**Condition B3-2** (1) avoid and minimise direct impacts on Ghost Bat and their roost habitats within the Development Envelope
Key impacts and risks:	Risk to the ecological integrity of the local population of Ghost Bat, due to the potential direct loss of roost caves from clearing or potential direct impact to individuals attributable to Jimblebar Hub mining activities

MSXXXX Condition clauses - Objective-based components			
Management targets	**Management actions**	**Monitoring and timing / frequency of actions**	**Reporting**
Condition B3-3 The proponent must implement the Jimblebar Hub Terrestrial Fauna Environmental Management Plan, with the purpose of ensuring the environmental objective in condition B3-2 is achieved, monitored and substantiated.			
Condition C4-1 The environmental management plans required under condition B3-3 must contain provisions which enable the achievement of the relevant objectives of those conditions and substantiation of whether the objectives are reasonably likely to be met, and must include: (2) **management targets**	**Condition C4-1** The environmental management plans required under condition B3-3 must contain provisions which enable the achievement of the relevant objectives of those conditions and substantiation of whether the objectives are reasonably likely to be met, and must include: (1) **management actions** (3) **contingency measures** if **management targets** are not met **Condition C3-2** Without limiting condition C1-1, the failure to achieve an environmental objective, or implement a **management action**, regardless of whether **contingency measures** have been or are being implemented, represents a non-compliance with these conditions. **Condition D1-1** If the proponent becomes aware of a potential non-compliance, the proponent must: (2) implement contingency measures; (3) investigate the cause; (4) investigate environmental impacts; (5) advise rectification measures to be implemented; (6) advise any other measures to be implemented to prevent no further impact.	**Condition C4-1** The environmental management plans required under condition B3-3 must contain provisions which enable the achievement of the relevant objectives of those conditions and substantiation of whether the objectives are reasonably likely to be met	**Condition C4-1** The environmental management plan required under condition B3-3, must contain provisions which enable the substantiation of whether the relevant outcomes of those conditions are met, and must include: (4) reporting requirements. **Condition D1-1** If the proponent becomes aware of a potential non-compliance, the proponent must: (1) report this to the CEO within seven (7) days; (7) provide a report to the CEO within twenty-one (21) days of being aware of the potential non-compliance, detailing the measures required in conditions D1-1(2) to D1-1(6). **Condition D2-1** The proponent must provide an annual Compliance Assessment Report to the CEO for the purpose of determining whether the implementation conditions are being complied with. **Condition D2-4** (1) state whether each condition of this Statement has been complied with, including: (b) achievement of environmental objectives; (d) requirements to implement environmental management plans; (f) implement **contingency measures**; (g) requirements to implement adaptive management; and (h) reporting requirements. (2) include the results of any monitoring (inclusive of any raw data) that has been required under Part C in order to demonstrate that the limits in Part A, and any outcomes or any objectives are being met; (3) provide evidence to substantiate statements of compliance, or details of where there has been a non-compliance; (4) include the corrective, remedial and preventative actions taken in response to any potential non-compliance.

Objective-based components			
Management targets	**Management actions**	**Monitoring and timing / frequency of actions**	**Reporting**
1. Minimise risk of injury or mortality to Ghost Bats from entanglement in barbed wire fencing installed within the Development Envelope	1. No use of barbed wire fencing within the Development Envelope, except where required by legislation 2. Where barbed wire fencing is required to be installed within the Development Envelope, design and install fencing with single strand top wire and bat reflectors, to deter bat interaction	• Inspect any areas which legally require barbed wire fencing after installation, to ensure that bat reflectors have been installed	**Annual reporting** Report against the requirements of Condition D2-4, in the annual Compliance Assessment Report required by Condition D2-1, including: • achievement of environmental outcomes against the trigger and threshold criteria and implementation of contingency measures (response actions), if trigger and/or threshold criteria were exceeded • monitoring results to demonstrate environmental outcomes have been met • if the threshold criterion was exceeded during the reporting period (representing a potential non-compliance), include the corrective, remedial and preventative actions taken (including the threshold contingency actions). **Exception reporting** • Notify Superintendent within 72 hours of BHP identifying an exceedance of a trigger criterion. • Notify Superintendent and General Manager within 24 hours of BHP identifying an exceedance of a threshold criterion (potential non-compliance). • As required by Condition D1-1: – notify the CEO of DWER in writing within 7 days of being aware of the potential non-compliance (exceedance of a threshold criterion) – provide a report to the CEO within 21 days of being aware of the potential non-compliance, detailing the measures required in conditions D1-1(2) to D1-1(6).
2. Monitor Ghost Bat caves (Category 3 roosts CJIM-09 and CJIM-14, and Category 4 roosts CJIM-05, CJIM-06, CJIM-07 and CJIM-15)	3. Monitoring of Category 3 caves CJIM-09 and CJIM-14, and Category 4 caves CJIM-05, CJIM-06, CJIM-07 and CJIM-15)[1]	• Category 3 roosts (Figure 5) to be monitored at least annually • Category 4 roosts (Figure 5) to be monitored at least biennially • Monitoring methods may include (but are not limited to) scat collection and analysis, use of motion sensor cameras, ultrasonic recordings and/or microclimate recordings	
3. Restrict access to Ghost Bat caves during breeding season	4. Monitor caves outside of the Ghost Bat breeding season (October to December)	• Review timing of proposed monitoring events prior to implementation to ensure it falls outside of the breeding season • Annual review of Ghost Bat monitoring report to confirm monitoring was undertaken outside of breeding season	

1. Category 3 roost CJIM-21 and Category 4 roost CJIM-20 are unable to be monitored due to heritage restrictions.



Proposed Development Envelope
Indicative Footprint
Indicative Cleared Area as at FY2022
Previously Assessed Areas

Ghost Bat roosts

Category 3 Roost
Category 4 Roost
50m mining exclusion
100m mining exclusion

Habitat type

Breakaway/ Cliff
Claypan
Drainage Area/ Floodplain
Gorge/ Gully
Hardpan Plain
Hillcrest/ Hillslope
Major Drainage Line
Minor Drainage Line
Mulga Woodland
Sand Plain
Stony Plain

N

0 1 2 3
KILOMETRES
GDA 1994 MGA ZONE 51

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JIMBLEBAR HUB
TERRESTRIAL FAUNA
ENVIRONMENTAL MANAGEMENT PLAN
Ghost Bat management buffers

WAIO PLANNING, TECHNICAL & ENVIRONMENT

SCALE @A4:	1:70,000	PREPARED:	GEOMATICS	FIGURE:	5
DATE:	8/05/2025	REQUESTOR:	ENV. APPROVALS	NO:	1021/070B

3 Adaptive management and review of the EMP

3.1 Adaptive management approach

BHP applies an adaptive management framework for implementing management measures identified in this EMP, which is consistent with the Instructions. Adaptive management is a structured, iterative process to decision making. The framework embeds a cycle of monitoring, reporting and implementing change where required. It allows an evaluation of the management and mitigation measures so that they are progressively improved and refined, or alternative solutions adopted, to ensure that environmental objectives and outcomes in the plan are achieved. The key steps of the adaptive management approach are outlined in Figure 6.

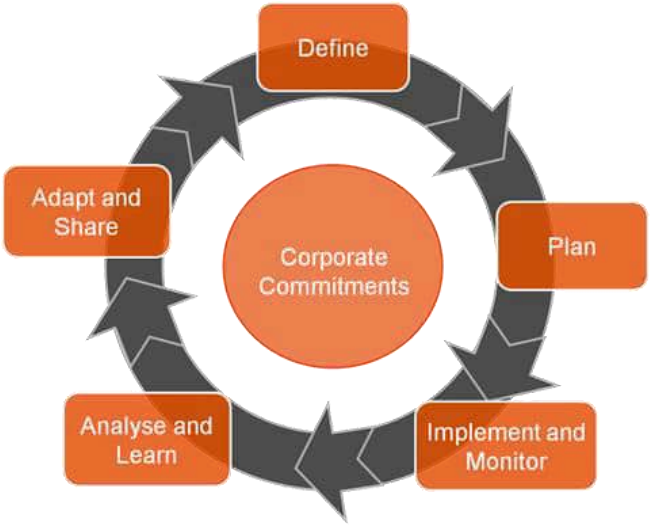

Figure 6: BHP's adaptive management approach

As this EMP is a requirement of a MS condition, BHP will seek formal endorsement from the DWER to amend the TFEMP based on information gained through adaptive management.

3.2 Review and revision of this EMP

BHP will review this EMP (and revise it if required), to ensure that it achieves the identified environmental objectives and meets MS conditions. A review may arise from the following:

- where required by a MS condition
- if initiated by BHP as part of the adaptive management process
- if triggered by a MS condition (e.g. for a non-achievement of management targets and/or failure to implement management actions).

Changes to the endorsed version of the EMP may arise from the following:

- BHP reviews the EMP if the EPA or relevant government agencies develop new or amend existing guidance or policy
- BHP adds components when a new operation (or amendment to an existing operation) is proposed

- BHP adds or amends components when new proposals are approved and conditioned through Part IV of the EP Act or due to a change to MS conditions
- The CEO of DWER directs BHP to revise the EMP
- The CEO of DWER confirms by notice in writing that it has been demonstrated that the relevant requirements for the EMP have been met, or are able to be met under another statutory decision-making process, in which case the implementation of the EMP is no longer required.

As provided for in proposed Condition C1-3 of MSXXXX, BHP may make minor revisions to this EMP (i.e. excluding changes to components in Table 3) without seeking endorsement from DWER. If BHP makes minor revisions to this EMP, BHP will provide the revised EMP with an explanation and justification of the minor revisions, according to the requirements in proposed Condition C1-4.

In accordance with proposed Condition C1-1(1), BHP must implement the implement the most recent version of the confirmed EMP.

4 Stakeholder consultation

BHP discussed the *Jimblebar Hub Iron Ore Mining Operations Significant Amendment* (BHP 2023a) (the Proposal) including Terrestrial Fauna related aspects, with the Traditional Owners, through Karlka Nyiyaparli Aboriginal Corporation (KNAC) during 2023. BHP provided a draft version of this EMP (TFEMP) to KNAC with the draft Environmental Review Document (referral supplementary report) for the Proposal.

BHP will consult with government agencies (including decision-making authorities), local authorities, groups and individuals, where relevant, in relation to the revision of this TFEMP.

5 Changes to an EMP

Table 4 summarises the key changes in this version of the EMP (TFEMP V1.3) compared to the original version submitted to the EPA in December 2023 with the referral documentation for the Jimblebar Significant Amendment.

Table 4 Changes to the EMP

Complexity of changes			**Minor revisions ☑**	**Moderate revisions**	**Major revisions**
Number of key environmental factors			**One ☑**	**2-3**	**>3**
Date revision submitted to DWER		August 2025			
Proponent's operational requirement timeframe for approval of revision		**< One month**	**< Six months ☑**	**>Six months**	**None**
Reason for timeframe		Approval of EMP to align with issue of Part IV approval			
Item no.	**EMP Section no.**	**EMP page no.**	**Summary of change**	**Reason for change**	
1.		page i	Version control table updated to include this version 1.1	To reflect the revision to the plan.	
2.	Section 2	page 13	Update of management target for Ghost Bat	To address comment provided by DCCEEW on the draft Jimblebar Significant Amendment Validation Notice	
3.	Section 2	Page 11	Update of management targets	To reflect application of buffers to additional caves and therefore no risk of direct impact	
4.	Appendix	Page 20	Update of Ghost Bat cave buffers	To apply buffers to all caves and increase buffers to some caves	
5.	Appendix	Page 20	Update of Ghost Bat cave buffers	To amend buffers	

6 References

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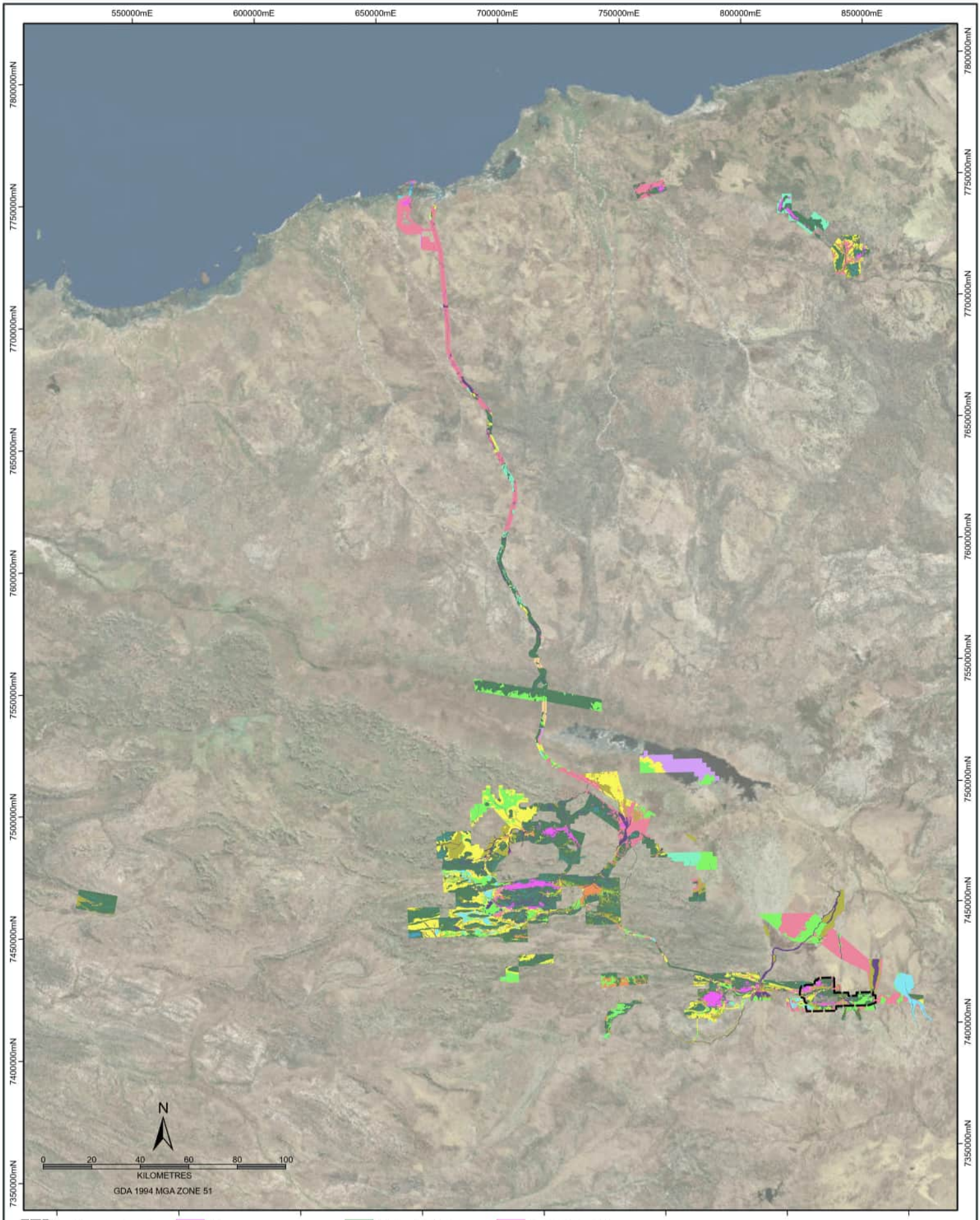
Appendix

Appendix 1: Potential impacts to caves recorded within the Development Envelope

Cave ID	Roost classification	Evidence of use by Ghost Bats	Proposed avoidance and mitigation	Avoid or impact
CJIM-04	Category 4	None	No direct avoidance measures	Outside of Indicative Footprint and unlikely to have direct impacts
CJIM-05	Category 4	Yes	100m mining exclusion buffer applied	Direct impacts avoided
CJIM-06	Category 4	Yes (unconfirmed)	100m mining exclusion buffer applied	Direct impacts avoided
CJIM-07	Category 4	Yes (unconfirmed)	100m mining exclusion buffer applied	Direct impacts avoided
CJIM-08	Category 4	None	50m mining exclusion buffer applied	Direct impact avoided
CJIM-09	Category 3	Yes	100m mining exclusion buffer applied	Direct impacts avoided
CJIM-14	Category 3	None	100m mining exclusion buffer applied	Direct impacts avoided
CJIM-15	Category 4	Yes	100m mining exclusion buffer applied	Direct impacts avoided
CJIM-17	Category 4	None	50m mining exclusion buffer applied	Direct impacts avoided
CJIM-18	Category 4	None	50m mining exclusion buffer applied	Direct impacts avoided
CJIM-20	Category 4	Yes	100m mining exclusion buffer applied	Direct impacts avoided
CJIM-21	Category 3	Yes	100m mining exclusion buffer applied	Direct impacts avoided

Grey rows indicate caves with proposed avoidance/ mitigation

Attachment C Consolidated fauna habitat map



Development Envelope

Fauna Habitat Type

- Artificial Quoll Habitat
- Artificial Wetlands
- Basalt Outcrops
- Boulders/ Rockpiles
- Breakaway/ Cliff
- Calcrete Plain
- Claypan
- Cleared/ Disturbed
- Disturbed
- Drainage Area/ Floodplain
- Gilgai Plain
- Gorge/ Gully
- Granite Outcrops/ Domes
- Hardpan Plain
- Hillcrest/ Hillslope
- Major Drainage Line
- Mangrove
- Mangroves
- Medium Drainage Line
- Minor Drainage Line
- Mulga Woodland
- Other
- Rehabilitated Area
- Saline Flats and Marsh
- Sand Dune
- Sand Plain
- Sandy/ Stony Plain
- Stony Plain
- Tidal Flat/ Drainage
- Wetland

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JIMBLEBAR SIGNIFICANT AMENDMENT REQUEST FOR INFORMATION RESPONSE

WAIO FAUNA HABITAT MAPPING

WAIO- PLANNING, TECHNICAL & ENVIRONMENT

SCALE @ A4:	1:2,000,000	REQUESTOR:	Name	FIGURE:	1
DATE:	8/08/2025	PREPARED:	Name	NO:	A1021_187A
		REVIEWED:			

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