Application to Amend NVCP CPS 4619/3 Jinidi to MAC Geotech

Native Vegetation Clearing Permit Amendment Application Supporting Document

March 2026

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1 INTRODUCTION

BHP Iron Ore Pty Ltd (BHP) currently operates a number of Iron Ore mines and associated rail and port infrastructure within the Pilbara region of Western Australia (WA). Current mining operations include the:

- Newman Operations consisting of:
  - The Mount Whaleback hub (including Orebodies 29, 30 and 35) located approximately two kilometres (km) west of Newman Township
  - The Eastern Ridge hub (Consisting of Orebodies 23, 24, 25 25 West and 32) located approximately 5 km east of Newman Township
- Mining Area C / South Flank located approximately 90 km north west of Newman Township
- Orebodies 18 and Wheelarra Hill (Jimblebar) Mine located approximately 35 km east of Newman Township
- Yandi Mine located approximately 100 km north west of Newman Township.

Ore from the above mining operations is transported to Port Hedland via the BHP Newman to Port Hedland Mainline (and associated spur lines) and is then shipped out through Port Hedland from BHP facilities at Nelson Point and Finucane Island.

BHP currently holds Native Vegetation Clearing Permit (NVCP) CPS 4619/3 for the purposes of geotechnical investigations. The full extent of these works is yet to be undertaken and therefore BHP is seeking to make the following changes:

- Amend the boundary to exclude two caves, one water hole, Cliff /. Breakaway habitat and a minor overlap with the mapped Weeli Wolli PEC boundary
- Extend the permit duration to 30 November 2036
- Extend the clearing period to 30 November 2031
- Extend the final reporting date to 30 November 2036
- Amend the purpose to be “Clearing for the purposes of geotechnical investigations and associated activities”.

No other changes to the NVCP are required.

In accordance with Part V Division 2 of the *Environmental Protection Act 1986* (EP Act), BHP hereby refers the application to amend NVCP CPS 4619/3 to the Department of Mines, Petroleum and Exploration (DMPE).

BHP considers that the proposed amendment application will not result in any significant environmental or social impacts and that the proposed Project complies with the ‘Ten Clearing Principles’, as defined in Schedule 5 of the EP Act.

1.1 LOCATION

The Amendment Application Area is located approximately 65 km north west of Newman in the Pilbara region of Western Australia (**Figure 1**).

1.2 TENURE

The Amendment Application Area is located on State Agreement Mineral Lease 244SA.

1.3 LOCAL GOVERNMENT JURISDICTION

The Amendment Application Area is located within the Shire of East Pilbara.

1.4 PROPONENT

The Project is managed and operated by BHP Iron Ore on behalf of the owners, *Iron Ore (Mount Newman) Agreement Act 1964* (MNJV). The split between the partners of the MNJV is as follows:

- BHP Minerals Pty Ltd 85%
- Itochu Minerals and Energy Australia Pty Ltd 5%
- Mitsui Iron Ore Corporation Pty Ltd 10%

The key contact for this project is:

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1.5 PROJECT DESCRIPTION

The proposed works will involve clearing for the purposes of geotechnical investigations and associated activities.

1.6 MITIGATION HIERARCHY

1.6.1 Avoid

The boundary of the Amendment Application Area has been clipped back to exclude:

- Mapped areas of Breakaway / Cliff habitat – no buffer.
- Two bat caves have been clipped – 150 m buffer.
- One waterhole has been clipped – 10 m buffer.

1.6.2 Minimise

Where practicable any new ground disturbance will be kept to previously disturbed areas.

Records of Priority flora will be avoided by a 10m buffer where practicable and no more than 40 records of Acacia subtiliformis and Goodenia sp. East Pilbara (A.A. Mitchell PRP 727) would be cleared.

Control of established weed populations will be carried out according to BHP's standard Weed Control and Management Procedures.

Any disturbance within Gorge and Gully will be minimised for access tracks only.

Any disturbance within Major Drainage Line habitats will be minimised and for access tracks only.

Active mounds of the Western Pebble-mound Mouse are identified they will be avoided using a 10 m buffer where practicable.

No new tracks will be installed across Weeli Wolli Creek.

Where practicable, existing cleared tracks will be used to cross the unnamed non-perennial minor drainage line. If it is necessary for new crossings to be installed, clearing will be kept to a bare minimum and will be constructed flat level to the surface (i.e. a simple clearing with no bunds) to maintain the natural surface flow.

1.6.3 Mitigate

Areas that are no longer required for the purpose for which they were cleared will be rehabilitated in accordance with Condition of CPS 4619/3 (or subsequent revisions).

1.6.4 Offset

Based on the low level of potential impacts associated with this application no offsets are proposed.

1.7 PROJECT CHARACTERISTICS AND COMMITMENTS.

BHP commits to undertake the Project in accordance with the details set out in **Table 1**.

Table 1: Project Characteristics and Commitments

Permit Characteristics	
Authorising Agency	DMPE
Permit Title	Jinidi to MAC Geotech
Area to be cleared	50 hectares
Amendment Application Area	2819.61 ha
Purpose of the permit	Clearing for the purpose of geotechnical investigations and associated infrastructure.
Tenure	Mineral Lease 244SA.
Clearing Duration	Until 30 November 2031
Permit Duration	Until 30 November 2036
Proposed Annual Reporting Date	01 October for the previous Financial Year
Proposed Final Reporting Date	30 November 2036
Application boundary	Map Reference: • JND_009NVCP_001_RevA_0 • JND_009NVCP_002_RevA_0 • JND_009NVCP_003_RevA_0 BHP Shapefile D2 Reference: https://waio-dctm.bhp.com/D2/?docbase=bhpbio_od_prod&locateId=0b03c41a84f5de8c&application=ManagedDocuments

Application Commitments	**Section**
Records of Priority flora will be avoided by a 10m buffer where practicable and no more than 40 records of *Acacia subtiliformis* and *Goodenia* sp. East Pilbara (A.A. Mitchell PRP 727) would be cleared.	1.6.2 3.4.2 6.1
Control of established weed populations will be carried out according to BHP's standard Weed Control and Management Procedures.	1.6.2 3.4.3 6.7.4
Any disturbance within Gorge and Gully will be minimised for access tracks only.	1.6.2 3.4.4 6.2
Any disturbance within Major Drainage Line habitats will be minimised and for access tracks only.	1.6.2 3.4.4 6.2
Active mounds of the Western Pebble-mound Mouse are identified they will be avoided using a 10 m buffer where practicable.	1.6.2 3.4.4 6.2
No new tracks will be installed across Weeli Wolli Creek.	1.6.2 3.6 6.6 6.9
Where practicable, existing cleared tracks will be used to cross the unnamed non-perennial minor drainage line. If it is necessary for new crossings to be installed, clearing will be kept to a bare minimum and will be constructed flat level to the surface (i.e. a simple clearing with no bunds) to maintain the natural surface flow.	1.6.2 3.6 6.6 6.9

1.8 NVCP RECORDS

BHP reports on each NVCP in accordance with the permit reporting conditions. For a majority of NVCPs this is incorporated into BHP Iron Ore's Annual Environmental Report (AER) which is submitted to government prior to the 01 October each year.

Clearing has been minimised by restricting activities to the minimum required for safety and equipment access and where practicable previously cleared areas are utilised rather than clearing new locations.

Significant environmental features have been avoided using the BHP Project Environmental and Heritage Review (PEAHR) procedure. This internal BHP procedure authorises ground disturbing activities.

No environmental offsets are required for this NVCP.

Clearing commenced in 2012 with a total of 6.71 ha cleared and 6.59 ha rehabilitated to the end of FY25 (BHP 2025). The remaining areas cleared under this NVCP are still required for the purpose for which they were cleared.

2 ASSOCIATED APPROVALS

Any other additional approvals will be sought as required.

3 EXISTING ENVIRONMENT

3.1 CLIMATE

Newman Aero meteorological site (007176) is the closest Bureau of Meteorology (BoM) station to the to the Amendment Application Area. Average annual rainfall at Newman Aero is 319.9 mm (BoM 2025a). This is mainly derived from tropical storms and cyclones during summer, producing sporadic, heavy rains over the area. Mean monthly rainfall varies from 5.5 mm in September to 70.2 mm in February (BoM 2025a). Daily rainfall is highly variable; the highest maximum daily rainfall ranges from 34.8 mm in October, to 305.6 mm in February (BoM 2025a). The mean maximum temperature in summer months (October to March) is 35.2°C to 39.4°C, and mean maximum temperature in winter (April to September) is between 23.1°C and 32.1°C (BoM 2025a).

Wittenoom meteorological site (005026) is the closest station to the Amendment Application Area that records daily evaporation. Wittenoom is located approximately 120 km north west of the Amendment Application Area. Mean daily evaporation at Wittenoom throughout the year is 8.6 mm/day (BoM 2025b), which equates to 3.1 metres per year. Evaporation greatly exceeds rainfall in the region throughout the year and on a month-by-month basis (BoM 2025b).

3.2 BIOREGION, LANDFORMS AND LAND SYSTEMS

The Amendment Application Area is situated in the following biogeographic sub-region:

- Hamersley subregion (PIL3) of the Pilbara region described as: "*Mountainous area of Proterozoic sedimentary ranges and plateaux, dissected by gorges (basalt, shale and dolerite). Mulga low woodland over bunch grasses on fine textured soils in valley floors, and Eucalyptus leucophloia over Triodia brizoides on skeletal soils of the ranges. The climate is semi-desert tropical, average 300 mm rainfall, usually in summer cyclonic or thunderstorm events. Winter rain is not uncommon. Drainage into either the Fortescue (to the north), the Ashburton to the south, or the Robe to the west. Subregional area is 6,215,092 ha*" (Kendrick and McKenzie 2001).

The proposed Amendment Application Area is also located in the following land systems, as mapped by van Vreeswyk *et al*. (2004):

Boolgeeda: Stony lower slopes, level stony plains and narrow sub-parallel drainage floors, relief up to 20 m. A common system in shallow valleys below hill systems such as Newman and Rocklea.

Calcrete: Calcrete platforms, plains and narrow drainage tracts, shallow alkaline loamy soils.

Newman: Rugged high mountains, ridges and plateaux with near vertical escarpments of jaspilite, chert and shale, the second largest system in the survey area and prominent in southern parts (e.g. Ophthalmia Range, Hamersley Range), relief up to 450 m.

Oakover Prominent plateaux, mesas and buttes of calcrete with lower plains with highly calcareous soils,similar to Table system, differing mainly in the vegetation it supports, relief up to 60 m.

Platform: Narrow, raised plains and highly dissected slopes on partly consolidated colluvium below the footslopes of hill systems such as Newman, relief mostly up to about 30 m but occasionally considerably greater.

River: Narrow floodplains and major channels."

Rocklea: Narrow, raised plains and highly dissected slopes on partly consolidated colluvium below the footslopes of hill systems such as Newman, relief mostly up to about 30 m but occasionally considerably greater

These Land Systems are well represented in their bioregions.

3.3 GEOLOGY AND SOILS

The Australian Soil Resource Information System (ASRIS) provides soil and land resource information across Australia. The following two soil types occur within the Amendment Application Area (CSIRO 2013):

Fa13: Ranges of banded jaspilite and chert along with shales, dolomites, and iron ore formations; some areas of ferruginous duricrust as well as occasional narrow winding valley plains and steeply dissected pediments. This unit is largely associated with the Hamersley and

Ophthalmia Ranges. The soils are frequently stony and shallow and there are extensive areas without soil cover: chief soils are shallow stony earthy loams (Um5.51) along with some (Uc5.11) soils on the steeper slopes. Associated are (Dr2.33 and Dr2.32) soils on the limited areas of dissected pediments, while (Um5.52) and (Uf6.71) soils occur on the valley plains.

Fa14: Steep hills and steeply dissected pediments on areas of banded jaspilite and chert along with shales, dolomite, and iron ore formations; some narrow winding valley plains: chief soils are shallow stony earthy loams (Um5.51) along with some (Uc5.11) soils on the steeper slopes. (Dr2.33, Dr2.32) soils which occur on the pediments are more extensive in this unit than in unit Fa13. (Um5.52) and (Uf6.71) soils occur on the valley plains.

3.4 FLORA, VEGETATION AND FAUNA

There have been twenty flora and vegetation surveys across all or parts of the Amendment Application Area. The most relevant surveys are:

- Jinidi Two-season Detailed Flora & Vegetation Survey (Biologic 2025a) (**Appendix 1**).
- Jinidi & Weeli Wolli targeted GDV Survey (Biologic 2025b) (**Appendix 2**).
- Central Pilbara Hub: Detailed and targeted flora and vegetation assessment (Biologic 2024a) (**Appendix 3**)
- Consolidation of Regional Vegetation Mapping BHP Billiton Iron Ore Pilbara Tenure (Onshore 2014) (**Appendix 4**)

There have been seventeen vertebrate fauna surveys across all or parts of the Amendment Application Area. The most relevant survey is:

- Jinidi Targeted Vertebrate Fauna Survey (Biologic 2024b) (**Appendix 5**).
- Consolidated Fauna Habitat Mapping 2017 (Biologic 2018) (**Appendix 6**).

3.4.1 Vegetation Communities

The Amendment Application Area is located within the Interim Biogeographic Regionalisation for Australia (IBRA) Pilbara Bioregion (Department of Environment and Heritage 2005). According to the Government of Western Australia (2013), this bioregion is more than 99.9% vegetated (**Table 2**). The vegetation within the Amendment Application Area is classified as the following vegetation associations, as mapped by Beard (1975):

18 Low woodland; mulga (*Acacia aneura*)
82 Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*.

There is more than 99% of the pre-European vegetation remaining of these vegetation associations (**Table 2**). The Amendment Application Area is not part of any significant remnant vegetation in the wider regional area.

Table 2: Pre European extent of vegetation associations occurring within the Amendment Application Area (Government of Western Australia 2013)

Vegetation Association	Pre-European Extent (ha)	Current Extent (ha)	% Remaining	Pre-European % in IUCN Class I-IV Reserves
Pilbara IBRA Bioregion	17,808,657	17,733,584	99.58	6.34
Vegetation type 18 in Western Australia	19,890,664	19,843,409	99.76	2.13
Vegetation type 18 in the Pilbara IBRA Bioregion	676,556	672,424	99.39	16.78
Vegetation association 82 within Western Australia	2,565,901	2,553,217	99.51	10.25
Vegetation association 82 within the Pilbara IBRA	2,563,583	2,550,899	99.51	10.26

A total of twelve broad floristic formations with 31 vegetation associations have been described and mapped within the Amendment Application Area (**Figure 2 and Table 3**).

Table 3: Vegetation associations of the Amendment Application Area (Biologic 2025, 2024a, 2024b and Onshore 2014)

Broad Floristic Formation	Vegetation Association Description	
Acacia Low Open Forest	SP AaApr TmTwTp TtChfAri	Low Open Forest of *Acacia aptaneura* and *Acacia pruinocarpa* over Open Hummock Grassland of *Triodia melvillei*, *Triodia wiseana* and *Triodia pungens* over Tussock Grassland of *Themeda triandra*, *Chrysopogon fallax* and *Aristida inaequiglumis* on red brown loam on stony plains.
Acacia low woodland	GG AcaAaGrb ErplEroSeaa Pto	*Acacia catenulata*, *A. aptaneura*, *Grevillea berryana* low woodland over *Eremophila platycalyx*, *E. oppositifolia*, *Senna artemisioides* subsp. x *artemisioides* mid to tall isolated shrubs over *Ptilotus obovatus* low sparse shrubland over isolated clumps of annual herbs and grasses.
Acacia tall open shrubland	GG AtAmAh ErmuThmb Tp Cf	*Acacia tumida*, *A. monticola*, *A. hamersleyensis* tall open shrubland over *Eriachne mucronata*, *Themeda* sp. Mt Barricade (M.E. Trudgen 2471) low open tussock grassland with *Triodia pungens* low sparse hummock grassland with *Corymbia ferriticola* low isolated trees.
	MI AtGrwAm Tp ErmuTt AnlDol Ch	*Acacia tumida*, *Grevillea wickhamii*, *A. monticola* tall open shrubland over *Triodia pungens* low open hummock grassland with *Eriachne mucronata*, *Themeda triandra* low sparse tussock grassland with *Androcalva luteiflora*, *Dodonaea lanceolata* mid sparse shrubland with *Corymbia hamersleyana* low isolated trees.
	MI AtPlApy ExCh ErmuTtEua AnlIsi TefcIng	*Acacia tumida*, *Petalostylis labicheoides*, *A. pyrifolia* tall open shrubland with *Eucalyptus xerothermica*, *Corymbia hamersleyana* low open woodland over *Eriachne mucronata*, *Themeda triandra*, *Eulalia aurea* low open tussock grassland with *Androcalva luteiflora*, *Isotropis iophyta* mid sparse shrubland over *Tephrosia rosea* var. Fortescue creeks (M.I.H. Brooker 2186), *Indigofera georgei* low sparse shrubland.
Eriachne low open tussock grassland	GG ErbErmuThmb CfFib(Ec) ErnDopApy Tp	*Eriachne benthamii*, *E. mucronata*, *Themeda* sp. Mt Barricade (M.E. Trudgen 2471) low open tussock grassland with *Corymbia ferriticola*, *Ficus brachypoda*, and occassionally *Eucalyptus camaldulensis*, low to mid open woodland over *Eremophila naaykensii* (P3), *Dodonaea pachyneura*, *Acacia pyrifolia* mid to tall sparse shrubland over *Triodia pungens* low isolated clumps of hummock grasses.
Eucalypus mid woodland	ME EcEv AciAcor CcTtErb PlApy Cocr	*Eucalyptus camaldulensis, E. victrix* mid woodland over *Acacia citrinoviridis*, *A. coriacea* low open woodland over **Cenchrus ciliaris*, *Themeda triandra*, *Eriachne benthamii* low open tussock grassland with *Petalostylis labicheoides*, *A. pyrifolia* tall sparse shrubland over *Corchorus crozophorifolius* low sparse shrubland.
Eucalyptus Open Forest	MA EcrMaEv AciAcp AbGosnGoro	Open Forest of *Eucalyptus camaldulensis* var. *refulgens*, *Melaleuca argentea* and *Eucalyptus victrix* over Low Open Woodland of *Acacia citrinoviridis* and *Acacia coriacea* subsp. *pendens* over Shrubland of *Acacia bivenosa*, *Gossypium sturtianum* and *Gossypium robinsonii* on brown silty sand and clay along Weeli Wolli Creek.
Eucalypus mid open woodland	ME EvEc ExAci ErbTtEua ApyAnlGoro CocrTefc	*Eucalyptus victrix, E. camaldulensis* mid open woodland over *E. xerothermica*, *Acacia citrinoviridis* low open woodland over *Eriachne benthamii*, *Themeda triandra*, *Eulalia aurea* low open tussock grassland with *A. pyrifolia*, *Androcalva luteiflora*, *Gossypium robinsonii* mid to tall sparse shrubland over *Corchorus crozophorifolius*, *Tephrosia rosea* var. *fortescue creeks* (M.I.H. Brooker 2186) low sparse shrubland.
Themeda Tussock Grassland	ME TtChfEua ExEvCh PlApaApyp	Tussock Grassland of *Themeda triandra*, *Chrysopogon fallax* and *Eulalia aurea* with Low Open Woodland of *Eucalyptus xerothermica*, *Eucalyptus victrix* and *Corymbia hamersleyana* and Shrubland of *Petalostylis labicheoides*, *Acacia pachyacra* and *Acacia pyrifolia.*
Triodia hummock grassland	CP TwTa Ese AbPlApyp	Hummock Grassland of *Triodia wiseana* and *Triodia angusta* with Open Mallee of *Eucalyptus socialis* subsp. *eucentrica* and Open Shrubland of *Acacia bivenosa*, *Petalostylis labicheoides* and *Acacia pyrifolia* var. *pyrifolia* on light brown clay loam on calcrete plains.
	CP TwTrag Ese AbPlApyp	Hummock Grassland of *Triodia wiseana* and *Triodia angusta* with Open Mallee of *Eucalyptus socialis* subsp. *eucentrica* and Open Shrubland of *Acacia bivenosa*, *Petalostylis labicheoides* and *Acacia pyrifolia* var. *pyrifolia* on light brown clay loam on calcrete plains.
	FS Ts CdHc AancAiGrwh	Hummock Grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) with Low Open Woodland of *Corymbia deserticola* subsp. *deserticola* and *Hakea chordophylla* over Open Shrubland of *Acacia ancistrocarpa*, *Acacia inaequilatera* and *Grevillea wickhamii* subsp. *hispidula* on red brown sandy loam on footslopes and stony plains.

Broad Floristic Formation	Vegetation Association Description	
	FS Tv CddHc AancAiGrwh	Hummock Grassland of *Triodia vanleeuwenii* with Low Open Woodland of *Corymbia deserticola* subsp. *deserticola* and *Hakea chordophylla* over Open Shrubland of *Acacia ancistrocarpa*, *Acacia inaequilatera* and *Grevillea wickhamii* subsp. *hispidula* on footslopes and hillslopes.
	HC Tw AiAb InrSeao	Hummock Grassland of *Triodia wiseana* with High Open Shrubland of *Acacia inaequilatera* and *Acacia bivenosa* over Low Open Shrubland of *Indigofera rugosa* and *Senna artemisioides* subsp. *oligophylla* on red silty loam on dolerite hill crests.
	HS TbrTw Ell	Hummock Grassland of *Triodia brizoides* and/or *Triodia wiseana* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* on brown sandy loam on steep hill slopes.
	HS TsTwTp EllCh AhiAaa	Hummock Grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835), *Triodia wiseana* and *Triodia pungens* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* over Low Open Shrubland of *Acacia hilliana* and *Acacia adoxa* var. *adoxa* on red brown sandy loam on hill slopes.
	HS Tv(Tw) Ell AbAancSegg	Hummock Grassland of *Triodia vanleeuwenii* (*Triodia wiseana*) with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* over Open Shrubland of *Acacia bivenosa*, *Acacia ancistrocarpa* and *Senna glutinosa* subsp. *glutinosa* with Scattered Low Trees of *Hakea lorea* subsp. *lorea* on hillslopes.
	HS Tv(Tw) EllCdd AhiAaa	Hummock Grassland of *Triodia vanleeuwenii* (+/- *Triodia wiseana*) with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia deserticola* subsp. *deserticola* over Low Open Shrubland of *Acacia hilliana* and *Acacia adoxa* var. *adoxa* on hillslopes.
	HS TwTpTs Ell AprAaAanc	Hummock Grassland of *Triodia wiseana*, *Triodia pungens* and *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* over Open Shrubland of *Acacia pruinocarpa*, *Acacia aptaneura* and *Acacia ancistrocarpa* on red brown loam on plains and low hills.
	ME TpTlo ExAciCh PlApypGoro	Hummock Grassland of *Triodia pungens* and *Triodia longiceps* with Low Woodland of *Eucalyptus xerothermica*, *Acacia citrinoviridis* and *Corymbia hamerselyana* over High Shrubland of *Petalostylis labicheoides*, *Acacia pyrifolia* var. *pyrifolia* and *Gossypium robinsonii* on red brown clay loam on medium drainage lines and surrounding floodplains.
	ME Tp(Tv) AaAprEx Pl	Hummock Grassland of *Triodia pungens* (+/- *Triodia vanleeuwenii*) with Low Woodland of *Acacia aptaneura*, *Acacia pruinocarpa* and *Eucalyptus xerothermica* over Tall Open Shrubland of *Petalostylis labicheoides* along medium drainage lines.
	SP TsTwTp EgEt AbApaApr	Hummock Grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835), *Triodia wiseana* and *Triodia pungens* with Very Open Mallee of *Eucalyptus gamophylla* and *Eucalyptus trivalva* over Open Shrubland of *Acacia bivenosa*, *Acacia pachyacra* and *Acacia pruinocarpa* on red brown sandy loam and clay loam on stony plains.
Triodia low hummock grassland	CP Tw AsubAb Ch	*Triodia wiseana low hummock grassland with Acacia subtiliformis (P3) tall sparse shrubland over A. bivenosa mid sparse shrubland with Corymbia hamersleyana low isolated trees*
	FS Tv CdEg AancApaAi Aar Ptro	*Triodia vanleeuwenii* low hummock grassland with *Corymbia deserticola*, *Eucalyptus gamophylla* low open woodland over *Acacia ancistrocarpa*, *A. pachyacra*, *A. inaequilatera* tall sparse shrubland over *A. arida* mid isolated shrubs over *Ptilotus rotundifolius* low isolated shrubs.
	HS Tw Ai	*Triodia wiseana* low hummock grassland with *Acacia inaequilatera* tall sparse shrubland.
	HS TvTwTp El AhiAadAsp Erla	*Triodia vanleeuwenii*, *T. wiseana*, *T. pungens* low hummock grassland with *Eucalyptus leucophloia* low open woodland over *Acacia hilliana*, *A. adoxa*, *A. spondylophylla* low sparse shrubland over *Eriachne lanata* low isolated tussock grasses.
Triodia low open hummock grassland	FP Tp PlApyErlo TtErmuErer ExApr	*Triodia pungens* low open hummock grassland with *Petalostylis labicheoides*, *Acacia pyrifolia*, *Eremophila longifolia* tall sparse shrubland over *Themeda triandra*, *Eriachne mucronata*, *Eragrostis eriopoda* low sparse tussock grassland with *Eucalyptus xerothermica*, *Acacia pruinocarpa* low isolated trees.

Broad Floristic Formation	Vegetation Association Description	
	SF TloTragTw AsyAb ChEx Ercu	*Triodia longiceps*, *T. angusta*, *T. wiseana* low open hummock grassland *Acacia synchronicia*, *A. bivenosa* tall sparse shrubland over *Corymbia hamersleyana*, *Eucalyptus xerothermica* low isolated trees over *Eremophila cuneifolia* mid isolated shrubs
	SP TvTp Eg Aanc Ai	*Triodia vanleeuwenii*, *T. pungens* low open hummock grassland with *Eucalyptus gamophylla* low open mallee woodland over *Acacia ancistrocarpa* mid isolated clumps of shrubs with *A. inaequilatera* tall isolated shrubs.
Triodia Open Hummock Grassland	HS Tp Ell SeggGrwhErll	Hummock Grassland of *Triodia pungens* with Scattered Low Trees of *Eucalyptus leucophloia* subsp. *leucophloia* and Scattered Shrubs of *Senna glutinosa* subsp. *glutinosa*, *Grevillea wickhamii* subsp. *hispidulaand Eremophila latrobei* subsp. latrobei on skeletal orange brown loam on stony hill slopes.

None of the vegetation associations or landforms identified within the boundary of the Amendment Application Area are associated with a TEC or PEC. The Amendment Application Area is immediately adjacent to the Weeli Wolli Spring Community (Priority 1) which has been clipped from the Amendment Application Area.

There should be no impacts on these PECs based on the proposed activities and the surface water management measures that will be implemented (**Section 3.6**).

The distinct mapped broad floristic communities and vegetation associations identified within Amendment Application Area extend or occur beyond the project boundary. It is considered unlikely that any changes in vegetation associations and local species over the time since the vegetation consolidation project would lead to elevated significance of the vegetation given that none of the vegetation associations identified within the Amendment Application Area were affiliated with any TECs or PECs and there are no vegetation associations within the Amendment Application Area that would be likely to be included in any updates to TEC or PEC listings.

Vegetation condition within the Amendment Application Area ranges from Excellent to completely Degraded.

3.4.2 Significant Flora

No species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) or gazetted as Threatened Flora species under the *Biodiversity Conservation Act 2016* (BC Act) have been identified within the Amendment Application Area.

Four Department of Biodiversity Conservation and Attractions (DBCA) listed Priority 3 flora species have been identified within the Amendment Application Area (**Table 4, Figure 2**). Records of Priority flora will be avoided by a 10m buffer where practicable.

Table 4: Conservation Significant Flora of the Application Area Amendment Application Area

Conservation Significant Species	Description	Habitat Relevance	Potential Impact on Species
Acacia subtiliformis (Priority 3)	*Acacia subtiliformis* is an erect, spindly, wispy single-stemmed glabrous shrub up to 3.5 m tall with yellow flowering from June to August (DPaW and Rio Tinto, 2015).	*Acacia subtiliformis* occurs in low, undulating country on calcareous rises adjacent to drainage lines. A majority of populations occur in the eastern Hamersley Ranges and a small population in the norther Gascoyne. This species has been recorded from: • 489 locations within the Amendment Application Area; • 5 records within 1 km of the Amendment Application Area; and • 159 other records in the broader region	**Low** The clearing of up to 40 records of this species (if required) within the Amendment Application Area would not result in any significant impact upon species distribution as this species relatively widely distributed across the Amendment Application Area and the broader surrounds.

Conservation Significant Species	Description	Habitat Relevance	Potential Impact on Species
Goodenia sp. East Pilbara (A.A. Mitchell PRP 727) (Priority 3)	*Goodenia* sp. East Pilbara (A.A. Mitchell PRP 727) is an open erect annual or biennial herb that grows up to 0.2 m in height. This species produces yellow flowers between March and September (WAH, 2016).	*Goodenia* sp. East Pilbara (A.A. Mitchell PRP 727) occurs in red-brown clay soil with calcrete pebbles on low undulating plains or swampy plains in close proximity to major drainage lines. This species is relatively widely distributed in the southern Pilbara and has been recorded from: • 395 locations within the Amendment Application Area; • 91 records within 1 km of the Amendment Application Area; and • 15 other locations with more than 534 records between Paraburdoo and Mount Cooke.	**Low** The clearing of up to 40 records of this species (if required) within the Amendment Application Area would not result in any significant impact upon species distribution as this species relatively widely distributed in the southern Pilbara.
Rostellularia adscendens var. *latifolia* (Priority 3)	*Rostellularia adscendens* var. *latifolia* is a low shrub to 0.3 m in height. It has blue-purple-violet flowers in April and May (WAH, 2016).	*Rostellularia adscendens* var. *latifolia* grows in ironstone soils in protected areas near watercourses or along shaded rocky ridges, often in dry gullies and gorges (DPaW and Rio Tinto, 2015). At times this species is heavily grazed. While *Rostellularia adscendens* species is widespread from Africa India and south-East Asia and occurs in all Australian States except Victoria this subspecies is only found in the Pilbara (DPaW and Rio Tinto, 2015). This species has been recorded from: • 17 locations within the Amendment Application Area; • 23 records within 1 km of the Amendment Application Area; and • five locations within Karijini National Park; and • 208 other locations across the broader region outside of the Amendment Application Area.	Low The clearing of a single record of this species (if required) within the Amendment Application Area would not result in any significant impact upon species distribution as: 1. This species is widely distributed within the southeast Pilbara (west of Newman). 2. there are five records of this species within Karijini National Park; and 3. This species has been recorded from 231 other locations across the broader region outside of the Amendment Application Area.
Stylidium weeliwolli (Priority 3)	*Stylidium weeliwolli* is a flattish rosetted annual herb growing to 25 cm high (including the flower). Flowers are white or pink with horn like lobes	*Stylidium weeliwolli* grows in gritty sandy soil along watercourses often in wet root masses of *Melaleuca argentea* at the edge of permanent pools or in gorges. This species has been recorded from: • 6 locations within the Amendment Application Area; • 123 records within 1 km of the Amendment Application Area; and • 72 other locations across the broader region outside of the Amendment Application Area.	Low The clearing of a single record of this species (if required) within the Amendment Application Area would not result in any significant impact upon species distribution as this species relatively widely distributed in the southern Pilbara.

3.4.3 Weeds

Two introduced flora species (weeds) have been recorded within the Amendment Application Area (**Table 5**). Control of established weed populations will be carried out according to BHP's standard *Weed Control and Management Procedures.*

Table 5: Introduced Flora of the Amendment Application Area

Species	Common Name	DPAW Rating (DPAW, 2016)	Declared Pest[1]
**Bidens bipinnata*	Bipinnate Beggartick	Unknown and Rapid	No
**Malvastrum americanum*	Spiked Malvastrum	High and Rapid	No

3.4.4 Fauna Habitats and Significant Fauna

Biologic (2024c and 2018) identified the following nine vertebrate fauna habitats within the Amendment Application Area (**Figure 3**):

- **Calcrete Plain**: The Calcrete Plain fauna habitat includes areas where some solid sheets of calcrete were present, but more commonly soils in this habitat were shallow red loams with calcrete rubble. The vegetation occurring differs from that of the surroundings, presumably due to the differences in soil type. Trees are isolated and the shrub layer tends to be sparse, with a low hummock grassland (*Triodia* sp.) dominant.
- **Drainage Area/ Floodplain:** Lower lying plain often subjected to sheet flow following large rainfall events. Vegetation and substrates of this habitat was variable, often comprising scattered *Eucalyptus* over *Acacia* and/or *Grevillea* shrubs with an understory dominated by *Triodia* hummock grasses and/or mixed tussock grasses on alluvial substrates, often with heavy clays and gravel. Tussock grasses can be dominant within Drainage Area/ Floodplain habitat as a result of high rainfall events.
- **Minor Drainage Line**: Usually lacks a tall dense upper storey, but with a dense mid storey, including sparse *Eucalyptus* sp., and *Acacia* sp. over tussock grasses and *Triodia* sp. hummock grasses.
- **Major Drainage Line**: Comprises scattered *Eucalyptus* and *Acacias*, or mulga woodland, with an understory dominated by tussock grasses. The structure and condition of vegetation often varies seasonally, particularly following rainfall events. Vegetation condition often subject to heavy cattle grazing. This habitat type is prone to pooling and ponding in areas. Also supports the Weeli Wolli PEC, which has groundwater dependent vegetation species including silver cadjeput (*Melaleuca argentea*).
- **Mulga Woodland**: Comprises stands of mulga (*Acacia aneura*) over clay or stony substrates. Differs from other plains by having a monoculture of mulga compared to a diversity of other Acacia species.
- **Stony Plain:** Comprises low-lying open plains and the rolling hills below upland areas, with very slight to no gradient. The substrate consists of gravel and pebbles, with vegetation dominated by *Triodia* and scattered Mulga, eucalypt and *Acacia* trees, with patches of various small to medium shrub species.
- **Hillcrest/ Hillslope:** Comprises a rocky substrate, often with exposed bedrock, on moderate to steep slopes leading into lower footslopes. This habitat was characterised by steep slopes with a high proportion of coarse fragments dominated by ironstone. These can contain cracks and crevices. Instances of Gorge/ Gully is contained within this habitat. This habitat is usually dominated by open *Eucalyptus* woodlands, *Acacia* and *Grevillea* scrublands and *Triodia* low hummock grasslands.
- **Hillcrest/ Hillslope**: Comprises a rocky substrate, often with exposed bedrock, on moderate to steep slopes leading into lower footslopes. This habitat was characterised by steep slopes with a high proportion of coarse fragments dominated by ironstone. These can contain cracks and crevices. Instances of Gorge/ Gully is contained within this habitat. This habitat is usually dominated by open *Eucalyptus* woodlands, *Acacia* and *Grevillea* scrublands and *Triodia* low hummock grasslands.
- **Gorge/ Gully**: Characterised by rugged, steep-sided valleys incised into the surrounding landscape. Gorges are deeply incised with vertical cliff faces, while gullies are more open (but not as open as Minor Drainage Lines). Caves and rock pools are most often encountered in this habitat type. Vegetation can be dense and complex in areas of soil deposition or sparse and simple where erosion has occurred.

[1] *Biosecurity and Agriculture Management Act*, 2007 (BAM Act) s22

The following habitat types and features have been clipped from the Amendment Application Area (**Figure 3**).

- Mapped areas of Breakaway / Cliff habitat – no buffer.
- Two bat caves have been clipped – 150 m buffer.
- One waterhole has been clipped – 10 m buffer.

The small area of Gorge and Gully habitat within the Amendment Application Area has been retained as it is quite shallow. Any disturbance within Gorge and Gully will be minimised and for access tracks only.

The surveys undertaken across the Amendment Application Area have resulted in four fauna species of significance being recorded from within the Amendment Application Area (**Figure 3**):

- *Dasyurus hallucatus* (Northern Quoll) (EPBC Act and BC Act Endangered).
- *Falco peregrinus* (Peregrine Falcon) (BC Act Other Specially Protected Fauna).
- *Pseudomys chapmani* (Western Pebble-mound Mouse) (DBCA Priority 4).
- *Underwoodisaurus seorsus* (Pilbara Barking Gecko) (DBCA Priority 2).

Based on the occurrence of the habitat types and significant fauna species previously recorded in the vicinity an additional six species are considered to potentially occur within the Amendment Application Area (i.e. those considered 'likely' or 'possible' to occur within the Amendment Application Area):

- *Anilios ganei* (Pilbara Flat-headed Blind-snake) (DBCA Priority 1).
- *Apus pacificus* (Fork-tailed Swift) (EPBC Act and BC Act Migratory).
- *Falco hypoleucos* (Grey Falcon) (Vulnerable, EPBC Act; Vulnerable, BC Act).
- *Liasis olivaceus* subsp. *barroni* (Pilbara Olive Python) (EPBC Act and BC Act Vulnerable).
- *Macroderma gigas* (Ghost Bat) (EPBC Act and BC Act Vulnerable).
- *Rhinonicteris aurantia* (Pilbara Leaf-nosed Bat) (EPBC Act and BC Act Vulnerable).

An assessment of the potential impact of the proposed clearing on the species of significant fauna that may occur in the application amendment area is provided in **Table 6**.

Table 6: Significant Fauna Potentially Occurring within the Amendment Application Area

Significant Species	Conservation Status	Distribution and Ecology	Habitat Relevance	Likelihood	Potential Impact on Species
Birds					
Fork-tailed Swift (*Apus pacificus*)	Migratory EPBC Act Schedule 5 BC Act	The Fork-tailed Swift breeds in north-east and east Asia, wintering in Australia and southern New Guinea (Johnstone and Storr 1998). Fork-tailed Swifts are entirely aerial within the Pilbara and may forage sporadically over the Amendment Application Area in the summer months, associated with thunderstorms and cyclonic systems (Johnstone and Storr 1998).	The Fork-tailed Swift is largely an aerial species and has a broad distribution across much of Western Australia. It is viewed as a nomadic species and may fly over the Amendment Application Area.	Possible	**Negligible** As this species is entirely aerial and not reliant on terrestrial habitats, the impact to this species is considered to be negligible.
Grey Falcon (*Falco hypoleucos*)	Vulnerable EPBC Act Vulnerable BC Act	The Grey Falcon occurs at low densities across inland Australia. This species frequents timbered lowlands, particularly Acacia shrublands that are crossed by tree-lined drainage systems (Threatened Species Scientific Committee 2020). The species also frequents spinifex and tussock grassland.	This species has not been recorded and there is no suitable nesting habitat for this species in the Amendment Application Area. This species may forage within the Drainage Line, Minor Drainage Line and Major Drainage Line habitat types of the Amendment Application Area	Possible	**Low** The proposed clearing activities will have negligible impact on the Grey Falcon as: • This species has not been recorded in the Amendment Application Area; • No potential nesting habitat is present in the Amendment Application Area; • Its key habitats occur extensively throughout the Pilbara; and • this species ability to egress from the area.
Peregrine Falcon (*Falco peregrinus*)	Other Specially Protected Fauna BC Act	The Peregrine Falcon is uncommon but wide ranging across Australia. They occur mainly along coastal cliffs, rivers and ranges as well as wooded watercourses and lakes. The Peregrine Falcon nests primarily on cliffs, granite outcrops and quarries, and feed mostly on birds (Johnstone and Storr 1998).	There are no suitable breeding sites in the Amendment Application Area for this species. Although it may forage in this area as part of a wider home range.	Recorded	**Low** The proposed clearing activities are unlikely to impact on the Peregrine Falcon as it has the ability to egress from areas being disturbed. More suitable habitat for this species occurs outside of the Amendment Application Area.
Mammals					
Ghost Bat (*Macroderma gigas*)	Vulnerable EPBC Act Vulnerable BC Act	Ghost Bats are patchily distributed across most of northern Australia, however the recent contraction in the distribution in central Australia has left the Pilbara population of ghost bats isolated by extensive sandy deserts (Worthington-Wilmer *et al*. 1994). They are generally associated with Gorge / Gully or drainage line habitats, requiring an undisturbed cave, deep fissure or disused mine shaft in which to roost. The Ghost Bat forages in areas of open woodland (Churchill 2008).	This species has not been recorded within the Amendment Application Area. There are no caves within the Amendment Application Area however this species may forage over the Amendment Application as part of a larger home range.	Possible	**Low** No caves occur within the Amendment Application Area. This species is likely to forage over the habitats within the Amendment Application Area and surrounds, however given the nature of the proposed activities the Ghost Bat is unlikely to be impacted from proposed activities.
Northern Quoll (*Dasyurus hallucatus*)	Endangered EPBC Act Endangered BC Act	Northern Quoll populations occur in six geographical centres around Australia, including: Drummond Range, central Queensland; the wet tropics of Northern Queensland; northern Cape York Peninsula; northern and western Top End, Northern Territory; north Kimberley and the Pilbara, Western Australia (Braithwaite and Griffiths, 1994). Northern Quoll denning habitat in the Pilbara is associated with rocky habitats or riverine habitats with mature Eucalypt trees with hollows (SEWPaC, 2011).	There is one record of the Northen Quoll in the Amendment Application Area. The Gorge/ Gully, Breakaway/ Cliff and Major Drainage Line habitats provide key foraging and dispersal habitat for the species. Based on the overall scarcity and concentration of records, the species is unlikely to be reliant on the habitats within the Amendment Application Area for long-term persistence at a local and/or regional scale. based on the results of the current survey. Based on the results of the Biologic (2024c) survey, the occurrence of northern quoll within the Amendment Application Area is unlikely to be representative of an important population.	Recorded	**Low** The proposed clearing activities will have negligible impact on the Northern Quoll as: • The records of this species are not considered to be representative of an important population; and • Disturbance within the Gorge/ Gully and Major Drainage Line habitats will be minimised and for access tracks only. • the proposed area for clearing is small in a regional context.
Pilbara Leaf-nosed Bat (*Rhinonicteris aurantius*)	Vulnerable EPBC Act Vulnerable BC Act	The Pilbara Leaf-nosed Bat requires deep caves or disused mine shafts in which to roost (van Dyck and Strahan 2008), at least in the dry season. These bats have been recorded in isolated populations in the Pilbara, and are present only where suitable roosting niches are available. They are generally sparsely distributed. The Pilbara Leaf-nosed Bat forages in areas of open woodland (Churchill 2008).	This species has not been recorded within the Amendment Application Area. There are no caves within the Amendment Application Area however this species may forage over the Amendment Application as part of a larger home range.	Possible	**Low** No caves occur within the Amendment Application Area. This species is likely to forage over the habitats within the Amendment Application Area and surrounds, however given the nature of the proposed activities the Pilbara Leaf-nosed Bat is unlikely to be impacted from proposed activities.
Western Pebble-mound mouse (*Pseudomys chapmani*)	Priority 4 DBCA	The Western Pebble-mound Mouse is restricted to the Pilbara region, where it is recognised as an endemic species. Abandoned mounds to the east of its current range indicate a decline in distribution (Menkhorst and Knight 2004). Abandoned mounds in disturbed areas suggest that the species is under threat by grazing and mining activities. The construction of extensive pebble mounds, built from small stones, which typically cover areas from 0.5-9.0 square metres, is characteristic of this species. Mounds are restricted to suitable class stones, and are usually found on gentle slopes and spurs (van Dyck and Strahan 2008).	This species has been recorded from nine locations within the Amendment Application Area (three inactive and six active mounds) This species is common in the broader region particularly in the Hill Crest / Hill Slope habitat.	Recorded	**Low** This species has been recorded from nine locations within Amendment Application Area. While the Hill Crest / Hill Slope is utilised by the Western Pebble-mound Mouse, the proposed area for clearing is small in a regional context and is contiguous with habitats in the local and regional area. Active mounds of the Western Pebble-mound Mouse are identified they will be avoided using a 10 m buffer, where practicable.

Significant Species	Conservation Status	Distribution and Ecology	Habitat Relevance	Likelihood	Potential Impact on Species
Reptiles					
Pilbara Barking Gecko (*Underwoodis aurus seorsus*)	Priority 2 DBCA	This is a rock-inhabiting, restricted-range species encountered at mid elevations in the Hamersley Ranges, widely separated from the closest populations of the related Barking gecko *U. milii* in the northern Goldfields and Shark Bay in Western Australia (Doughty and Oliver, 2011)	This species preferred habitat (Gorge / Gully) is only present in limited amounts within the Amendment Application Area. Disturbance within Gorge and Gully habitat will be minimised and for access tracks only.	Possible	**Low** The proposed clearing activities are unlikely to impact on this species as the Gorge / Gully habitat will be will be minimised and for access tracks only. Suitable habitat for this species is present outside of the amendment application area, as this species has been recorded in adjacent areas.
Pilbara Flat-headed Blind Snake (*Anilios ganei*)	Priority 1 DBCA	The Pilbara Flat-headed Blind Snake is a moderately robust blind snake known from widely separated areas between Newman and Pannawonica. A very cryptic species. Most often recorded in rocky or stony areas and considered to be possibly associated with moist gorges and gullies (Wilson and Swan 2010)	The broader Hill Crest / Hill Slope habitats of the Amendment Application Area may also provide suitable habitat for this species, so it may disperse and forage through the Amendment Application Area.	Possible	**Low** Given the regional distribution of Pilbara Flat-headed Blind Snake, the loss of some habitat from the proposed clearing associated with the Amendment Application Area is considered as being low when compared to the expansive areas of suitable habitat remaining and throughout in the Pilbara.
Pilbara Olive Python (*Liasis olivaceus barroni)*	Vulnerable EPBC Act Vulnerable BC Act	The Pilbara Olive Python's range is restricted to the Pilbara region, north Western Australia and the Dampier Archipelago. Habitat consists of rocky escarpments, gorges and waterholes within the Pilbara Region. The preferred microhabitat for this species are under rock piles, on top of rocks and under spinifex as well as in artificial features such as overburden heaps, railway embankments an sewerage treatment ponds. The species' breeding season occurs from June to August, with males moving long distances in search of breeding females (Wilson and Swan 2017).	This species may utilise the Drainage Line, Minor Drainage Line, Major Drainage Line and Stony Plain habitats of the Amendment Application Area in a transitory nature when conditions are suitable.	Likely	**Low** The impact upon this species is likely to be low as there are no key habitat or habitat features within the Amendment Application Area. There are larger areas of suitable habitat in a similar or better condition adjacent to the Amendment Application Area and in the wider area.

3.5 GROUNDWATER

The Amendment Application Area is located in the Pilbara Groundwater Area, proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act) (DoW 2009a).

There are two main aquifers within the Amendment Application Area:

Hamersley – Fractured Rock Aquifer which is described as: "*The Precambrian rocks of the Hamersley Basin are principally volcanics, shales and iron formations. Groundwater is contained within fractures within these rocks. The groundwater level may be deep below the surface, and is generally fresh. The main use of this aquifer is for mining and mine dewatering from iron ore mines. Bores have also been drilled for road and railway construction. There will be increasing dewatering from the fractured rocks around iron ore mines as the pits become deeper* (DoW 2015a)".

Wittenoom – Wittenoom Aquifer which is described as: "*The Wittenoom aquifer is distinguished as a separate aquifer system because the Wittenoom Dolomite is distinct from the other fractured rock aquifers in the Hamersley Basin, having karst development (solution cavities) and being overlain by a thick sequence of valley filled sediments consisting of pisolite, calcrete and alluvium. The Wittenoom Dolomite is the most important aquifer in the province and underlies the main valleys in the Hamersley Range; it is highly transmissive and high yielding where there is karst development. Water levels may be fairly deep. The groundwater is generally fresh. The aquifer has been developed for Tom Price and Marandoo water supply and has been investigated at other localities. There is likely to be significant development pressure on this aquifer for supply to iron ore operations* (DoW, 2015b)."

3.6 SURFACE WATER

The Amendment Application Area is situated in the Pilbara Surface Water Area, proclaimed under the RIWI Act (DoW 2009b).

One named non-perennial watercourse Weeli Wolli Creek bisects the Amendment Application. A majority of the Weeli Wolli Creek has been clipped from the Amendment Application Area except at the southern edge of the Amendment Application Area which is required for an access track.

There are multiple other non-perennial drainage lines that flow across the Amendment Application area before reporting to Weeli Wolli Creek.

No new tracks will be installed across Weeli Wolli Creek.

Where practicable, existing cleared tracks will be used to cross the unnamed non-perennial minor drainage lines. If it is necessary for new crossings to be installed, clearing will be kept to a bare minimum and will be constructed flat level to the surface (i.e. a simple clearing with no bunds) to maintain the natural surface flow.

4 ENVIRONMENTAL MANAGEMENT

The management of the environmental aspects of BHP's operations at the Amendment Application Area are managed under the company's AS/NZS ISO 14001:2004 certified Environmental Management System (EMS). The EMS describes the organisational structure, responsibilities, practices, processes and resources for implementing and maintaining environmental objectives at all BHP sites

Additionally, operational controls for environmental management for the Project area are guided by BHP's Charter values. The Charter Values outline a commitment to develop, implement and maintain management systems for sustainable development that drive continual improvement and set and achieve targets that promote efficient use of resources. In order to give effect to the Charter Values, a series of Global Documents have been developed.

BHP has also developed a Sustainable Development Policy for its operations. The Sustainable Development Policy outlines a commitment to setting objective and targets to achieve sustainable outcomes and to continually improve our performance.

BHP also has an internal Project Environmental and Aboriginal Heritage Review (PEAHR) Procedure. The purpose of the procedure is to manage implementation of environmental, Aboriginal heritage, land tenure and legal commitments prior to and during land disturbance. All ground disturbance activities will meet the requirements of the PEAHR procedure, all relevant legislative and regulatory requirements, the BHP Charter, industry standards, and codes of practice.

All personnel carrying out works associated with clearing activities are required to comply with BHP's Charter Values, BHP's Global Documents, and relevant legislative and licensing requirements.

5 PROJECT COMPLIANCE WITH THE TEN CLEARING PRINCIPLES

BHP considers that native vegetation clearing within the Amendment Application Area will not result in any significant environmental or social impacts, and complies with the Ten Clearing Principles, as defined in Schedule 5 of the EP Act. **Section 6** provides an assessment of project compliance with the Ten Clearing Principles.

6 ASSESSMENT AGAINST THE TEN CLEARING PRINCIPLES

The information used to assess the application against the Ten Clearing Principles has been based on the findings of multiple baseline surveys (**Section 3**).

6.1 PRINCIPLE A

Native vegetation should not be cleared if it comprises a high level of biological diversity

This project is not likely to be at variance to this Principle.

Similar habitat to the Amendment Application Area is located outside the Amendment Application Area. These other areas of similar vegetation type are therefore expected to have a similar biological diversity and conservation value than that of the Amendment Application Area.

The proposed clearing is therefore unlikely to have any significant impact on the biodiversity of the region.

Table 7 provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle A.

Table 7: Assessment against Principle A components

Principle	Criteria	Assessment	Outcome
a) Native vegetation should not be cleared if it comprises a high level of biological diversity.	a1) Native vegetation should not be cleared if it is representative of an area of outstanding biodiversity in the Bioregion.	The native vegetation within the Amendment Application Area is represented in the same condition within the broader region and is not considered to be of outstanding biodiversity in the Bioregion.	Not at variance with clearing principle.
	a2) Native vegetation should not be cleared if it has higher diversity of indigenous aquatic or terrestrial plant or fauna species than native vegetation of that ecological community in good or better condition in the Bioregion.	The native vegetation within the Amendment Application Area is in the same condition as other areas of similar vegetation type within the broader region.	Not at variance with clearing principle.
	a3) Native vegetation should not be cleared if it has higher diversity of indigenous aquatic or terrestrial plant or fauna species than the remaining vegetation of that ecological community in the local area.	The native vegetation within the Amendment Application Area is not considered to have higher biodiversity and conservation value than that of the surrounding vegetation within the local area.	Not at variance with clearing principle.
	a4) Native vegetation should not be cleared if it has higher ecosystem diversity than other native vegetation of that local area.	The native vegetation within the Amendment Application Area is not considered to have a higher ecosystem diversity than other native vegetation of that local area.	Not at variance with clearing principle.
	a5) Native vegetation should not be cleared if it has higher genetic diversity than the remaining native vegetation of that ecological community.	The native vegetation within the Amendment Application Area is not considered to have a higher genetic diversity than the remaining native vegetation of that ecological community as the vegetation is contiguous with adjacent native vegetation and has no special features.	Not at variance with clearing principle.
	A6) Native vegetation should not be cleared if it is necessary for the continued in situ existence of significant habitat for priority flora species published by the Department of Environment and Conservation.	Four Priority 3 flora species have been recorded in the Amendment Application Area. Records of Priority flora will be avoided by a 10m buffer, where practicable and no more than 40 records of *Acacia subtiliformis* and *Goodenia sp. East Pilbara* (A.A. Mitchell PRP 727) would be cleared.	Not at variance with clearing principle.

6.2 PRINCIPLE B

Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia

This project is not likely to be at variance to this Principle.

There are nine broad fauna habitat types within the Amendment Application Area (**Figure 3**).

The vegetation and habitat found within the Amendment Application Area are considered to be well represented in the Pilbara bioregions.

Four fauna species of significance has been recorded from within the Amendment Application Area with an additional six species considered to potentially occur within the Amendment Application Area (**Table 6**). As described in **Section 3.4.4** and **Table 6** clearing of the Amendment Application Area is expected to have a low impact on these species.

Table 8 provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle B.

Table 8: Assessment against Principle B components

Principle	Criteria	Assessment	Outcome
b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.	b1) Native vegetation should not be cleared if it is or is likely to be habitat for fauna that is declared Specially Protected under the BC Act.	Two BC Act protected species has been recorded from the Amendment Application Area and five BC Act protected species are considered 'possible' or 'likely' to occur within the Amendment Application Area (**Table 6**). The proposed activities are unlikely to have a significant impact on these species as: • All species are wide-ranging and found throughout the broader region. • There are no key habitat features (caves and waterhole habitats) within the Amendment Application Area. • Any disturbance within Gorge and Gully will be minimised for access tracks only. • Any disturbance within Major Drainage Line habitats will be minimised and for access tracks only. • All species are only likely to forage within the Amendment Application Area. • These species do not exclusively depend on any habitat type or feature within the Amendment Application Area. • Similar habitat is well represented outside the Amendment Application Area.	Unlikely to be at variance with clearing principle.
	b2) Native vegetation should not be cleared if it is or is likely to be habitat for Priority Listed Fauna.	One Priority fauna species has been recorded within the Amendment Application Area with one other species considered 'possible' to occur within the Amendment Application Area. As detailed in **Table 6** these species are unlikely to be impacted for the following reasons: • The preferred habitat for these species is well represented outside the Amendment Application Area. • Any disturbance within Gorge and Gully will be minimised for access tracks only. • Any disturbance within Major Drainage Line habitats will be minimised and for access tracks only. • Similar habitat within close vicinity to the Amendment Application Area was found to be the same or better condition than that of the Amendment Application Area. • Active mounds of the Western Pebble-mound Mouse are identified they will be avoided using a 10 m buffer, where practicable.	Not at variance with clearing principle.
	b3) Native vegetation should not be cleared if it is or is likely to be habitat for fauna that is otherwise significant.	Habitat found within the Amendment Application Area may be suitable for use by conservation significant fauna, however similar habitat in the same or better condition is widespread in the Amendment Application Area surrounds.	Not at variance with clearing principle.

Principle	Criteria	Assessment	Outcome
	b4) Native vegetation should not be cleared if it provides significant habitat for fauna species in the local area.	Habitat within the Amendment Application Area is not considered significant habitat for fauna species within the local area. Similar habitat to that proposed to be cleared is located to the area surrounding of the Amendment Application Area.	Not at variance with clearing principle.
	b5) Native vegetation should not be cleared if it maintains ecological functions and processes that protect significant habitat for fauna.	The clearing of native vegetation is not considered to alter ecological functions and processes that protect significant habitat for fauna.	Not at variance with clearing principle.
	b6) Native vegetation should not be cleared if it forms, or is part of, an ecological linkage that is necessary for the maintenance of fauna.	No ecological linkages run through the Amendment Application Area that are necessary for the maintenance of fauna.	Not at variance with clearing principle.
	b7) Native vegetation should not be cleared if it provides significant habitat for fauna communities (assemblages) and meta-populations.	The Amendment Application Area is not considered to contain significant habitat for faunal assemblages that are not also present in other areas within the vicinity. The Amendment Application Area is not considered likely to contain geographically isolated fauna populations.	Not at variance with clearing principle.

6.3 PRINCIPLE C

Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora

This project is not likely to be at variance to this Principle.

No species listed under the EPBC Act or gazetted as Threatened under the BC Act were recorded in the Amendment Application Area (**Section 3.4.2**).

Table 9 provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle C.

Table 9: Assessment against Principle C components

Principle	Criteria	Assessment	Outcome
c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.	c1) Native vegetation should not be cleared if it is necessary for the continued *in situ* existence of populations of Declared Rare Flora under the *BC Act 2016*	No Threatened flora species were recorded in the Amendment Application Area.	Not at variance with clearing principle.
	c2) Native vegetation should not be cleared if it is necessary for the continued *in situ* existence of other significant flora.	No species listed under the EPBC Act or other significant flora species were recorded in the Amendment Application Area.	Not at variance with clearing principle.

6.4 PRINCIPLE D

Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community

This project is not likely to be at variance to this Principle.

None of the vegetation associations or landforms identified within the boundary of the Amendment Application Area are associated with a TEC or PEC. The Amendment Application Area is immediately adjacent to the Weeli Wolli Spring Community (Priority 1) which has been clipped from the Amendment Application Area.

There should be no impacts on these PECs based on the proposed activities and the surface water management measures that will be implemented (**Section 3.6**).

Table 10 provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle D.

Table 10: Assessment against Principle D components

Principle	Criteria	Assessment	Outcome
d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.	d1) Native vegetation should not be cleared if threatened ecological communities listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* are present.	No EPBC Act TECs are present in the Amendment Application Area.	Not at variance with clearing principle.
	d2) Native vegetation should not be cleared if it is necessary for the maintenance of Threatened Ecological Communities listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.	No EPBC Act TECs or associated native vegetation will be impacted by the proposed works.	Not at variance with clearing principle.
	d3) Native vegetation should not be cleared if other significant ecological communities are present.	The Amendment Application Area is immediately adjacent to the Weeli Wolli Spring Community (Priority 1) which has been clipped from the Amendment Application Area. There should be no impacts on these PECs based on the proposed activities and the surface water management measures that will be implemented (**Section 3.6**).	Not at variance with clearing principle.
	d4) Native vegetation should not be cleared if it is necessary for the maintenance of other significant ecological communities.	No DBCA listed TECs or associated native vegetation will be impacted by the proposed works.	Not at variance with clearing principle.
	d5) Native vegetation should not be cleared if it is necessary for the continued *in situ* existence of significant examples of priority threatened ecological communities published by the Department of Environment and Conservation.	The Amendment Application Area is immediately adjacent to the Weeli Wolli Spring Community (Priority 1) which has been clipped from the Amendment Application Area. There should be no impacts on these PECs based on the proposed activities and the surface water management measures that will be implemented (**Section 3.6**).	Not at variance with clearing principle.

6.5 PRINCIPLE E

Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared

This project is not likely to be at variance to this Principle.

The habitat and vegetation within the Amendment Application Area is well represented in the Land Systems of the region (**Section 3.4.1**), and therefore it is unlikely individual species would be restricted to a particular habitat and vegetation occurring in the Amendment Application Area.

Table 11 provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle E.

Table 11: Assessment against Principle E components

Principle	Criteria	Assessment	Outcome
e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.	e1) Native vegetation should not be cleared if the remaining native vegetation represents less than 30%, or the clearing would reduce the representation of remaining native vegetation to less than 30% in the Bioregion (or subregion where applicable).	Clearing native vegetation within the Amendment Application Area will not reduce the extent of native vegetation below 30% in the bioregion or subregion.	Not at variance with clearing principle.
	e2) Native vegetation should not be cleared if an ecological community represents less than 30% of its original extent or clearing would reduce the representation of any ecological community to less than 30% of its original extent in the Bioregion (or subregion where applicable).	Clearing native vegetation within the Amendment Application Area will not significantly reduce the known extent of the ecological community from pre-European extents. Current remaining extents of the vegetation communities in the bioregion are almost 100% of pre-European extents.	Not at variance with clearing principle.
	e3) Native vegetation should not be cleared if clearing would reduce an ecological community to less than 1% of the Bioregion (or subregion where applicable)	Clearing native vegetation within the Amendment Application Area will not significantly reduce the known extent of the vegetation community in the bioregion.	Not at variance with clearing principle.
	e4) Native vegetation should not be cleared if the remaining native vegetation represents less than 30% or the clearing would reduce the representation of remaining native vegetation to less than 30% in the Local Area.	Clearing native vegetation within the Amendment Application Area will not reduce the representation of remaining native vegetation to less than 30% in the local area.	Not at variance with clearing principle.
	e5) Native vegetation should not be cleared if an ecological community represents less than 30% of its original extent or clearing will reduce the representation of any ecological community to less than 30% of its original extent in the Local Area.	Clearing native vegetation within the Amendment Application Area will not reduce the representation of any ecological community to less than 30% of its original extent in the local area.	Not at variance with clearing principle.
	e6) Native vegetation should not be cleared if clearing would reduce any ecological community to less than 1% of the Local Area.	Clearing native vegetation within the Amendment Application Area will not significantly reduce the known extent of the vegetation community in the local area.	Not at variance with clearing principle.

6.6 PRINCIPLE F

Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland

This project is unlikely to be at variance to this Principle.

One named non-perennial watercourse Weeli Wolli Creek bisects the Amendment Application. A majority of the Weeli Wolli Creek has been clipped from the Amendment Application Area except at the southern edge of the Amendment Application Area which is required for an access track.

There are multiple other non-perennial drainage lines that flow across the Amendment Application area before reporting to Weeli Wolli Creek.

No new tracks will be installed across Weeli Wolli Creek.

Where practicable, existing cleared tracks will be used to cross the unnamed non-perennial minor drainage lines. If it is necessary for new crossings to be installed, clearing will be kept to a bare minimum and will be constructed flat level to the surface (i.e. a simple clearing with no bunds) to maintain the natural surface flow.

Table 12 provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle F.

Table 12: Assessment against Principle F components

Principle	Criteria	Assessment	Outcome
f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.	f1) Native vegetation should not be cleared if it is growing in a watercourse or wetland that has been identified as having significant environmental values.	One named non-perennial watercourse Weeli Wolli Creek bisects the Amendment Application. A majority of the Weeli Wolli Creek has been clipped from the Amendment Application Area except at the southern edge of the Amendment Application Area which is required for an access track. There are multiple other non-perennial drainage lines that flow across the Amendment Application area before reporting to Weeli Wolli Creek. No new tracks will be installed across Weeli Wolli Creek. Where practicable, existing cleared tracks will be used to cross the unnamed non-perennial minor drainage lines. If it is necessary for new crossings to be installed, clearing will be kept to a bare minimum and will be constructed flat level to the surface (i.e. a simple clearing with no bunds) to maintain the natural surface flow.	Not at variance with clearing principle.
	f2) Native vegetation should not be cleared if it provides a buffer area for watercourses and wetlands identified in criteria (f1) and (f2).	One named non-perennial watercourse Weeli Wolli Creek bisects the Amendment Application. A majority of the Weeli Wolli Creek has been clipped from the Amendment Application Area except at the southern edge of the Amendment Application Area which is required for an access track. There are multiple other non-perennial drainage lines that flow across the Amendment Application area before reporting to Weeli Wolli Creek. No new tracks will be installed across Weeli Wolli Creek. Where practicable, existing cleared tracks will be used to cross the unnamed non-perennial minor drainage lines. If it is necessary for new crossings to be installed, clearing will be kept to a bare minimum and will be constructed flat level to the surface (i.e. a simple clearing with no bunds) to maintain the natural surface flow.	Not at variance with clearing principle.

	f3) Native vegetation should not be cleared if water tables are likely to change and adversely affect ecological communities that are wetland or groundwater dependent.	Due to the small scale of clearing this project is not considered likely to adversely alter water tables, and as such will not impact on any ecological communities that are wetland or groundwater dependent.	Not at variance with clearing principle.
	f4) Native vegetation should not be cleared if it is growing in other watercourses or wetlands.	No permanent watercourses or wetlands are located within with the Amendment Application Area or in association with any other immediate watercourses or wetland in the surrounding area.	Not at variance with clearing principle.

6.7 PRINCIPLE G

Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation

This project is not likely to be at variance to this Principle.

Land degradation may include impacts such as erosion, changes to pH, water logging, salinisation or spread of weeds. These potential impacts are assessed in the sections below. **Table 13** provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle G.

Given the relatively small amount of clearing required for the project, the proposed management strategies for weed species within the Amendment Application Area and the low susceptibility of the soils to erosion, it is considered that the project will not be at variance to Principle G.

6.7.1 Erosion

It is not anticipated that the removal of vegetation will contribute to increased amounts of wind or water erosion in the Amendment Application Area or adjacent areas.

6.7.2 Changes to pH

The Amendment Application Area is not in an area at risk of acid sulphate soils and there are no recorded acid sulphate soils within the Amendment Application Area. It is not expected that the proposed clearing will result in changes to soil pH.

6.7.3 Water logging and salinisation

It is not expected that there will be a significant reduction in groundwater uptake due to the proposed clearing. No water logging or increased salinisation is expected to occur as a result of the proposed clearing.

6.7.4 Weeds

Two introduced flora species have been recorded in the Amendment Application Area (**Table 4**). None are listed as a Declared Pest under the BAM Act. These are typical introduced species commonly recorded in the Pilbara region.

Control of established weed populations will be carried out according to the *BHP Weed Control and Management Procedure*.

Table 13: Assessment against Principle G components

Principle	Criteria	Assessment	Outcome
g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	g1) Native vegetation should not be cleared if wind or water erosion of soil is likely to be increased (on or off site).	Soil erosion is not anticipated to occur as any areas cleared will be revegetated where practicable, if not required for infrastructure.	Not considered to be at variance with clearing principle.
	g2) Native vegetation on land with soils with high or low pH should not be cleared.	The Amendment Application Area is not considered to contain soils at risk of having acid sulphate soils present. No vegetation on soils with significantly low (or high) pH will be impacted by the proposed works.	Not at variance with clearing principle.
	g3) Native vegetation should not be cleared if water logging is likely to be increased (on or off site).	It is not expected that water logging would be increased by the clearing of native vegetation within the Amendment Application Area.	Not at variance with clearing principle.
	g4) Native vegetation should not be cleared if land salinisation is likely to be increased (on or off site).	Soil salinity is not considered to be increased in the Amendment Application Area (on or off site) by the clearing of native vegetation.	Not at variance with clearing principle.

6.8 PRINCIPLE H

Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area

This project is not likely to be at variance to this Principle.

The Amendment Application Area is not within any conservation areas as listed by the DBCA or those protected under the EPBC Act. The closest conservation area is Karijini National Park which is more than 40 km west of the Amendment Application Area.

The Amendment Application Area is not considered to form an ecological linkage to these conservation areas.

An assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle H is provided in **Table 14** below.

Table 14: Assessment against Principle H components

Principle	Criteria	Assessment	Outcome
h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.	h1) Native vegetation should not be cleared if it contributes significantly to the environmental values of a conservation area.	The vegetation of the Amendment Application Area does not contribute to the environmental values of a conservation area.	Not at variance with clearing principle.
	h2) Native vegetation should not be cleared if that vegetation provides a buffer to a conservation area.	There are no conservation areas within the vicinity of the Amendment Application Area.	Not at variance with clearing principle.
	h3) Native vegetation should not be cleared if the land contributes to an ecological linkage to a conservation area.	The nearest conservation area is 55 km west of the Amendment Application Area.	Not at variance with clearing principle.
	h4) Native vegetation should not be cleared if it provides habitats not well represented on conservation land.	There are no habitats within the Amendment Application Area that are not well represented on conservation land.	Not at variance with clearing principle.

6.9 PRINCIPLE I

Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water

This project is not likely to be at variance to this Principle.

Appropriate surface water management practices will be implemented to minimise erosion and minimise potential impacts on the quality of surface water. The clearing is unlikely to cause deterioration in the quality of any surface or underground water.

No new tracks will be installed across Weeli Wolli Creek.

Where practicable, existing cleared tracks will be used to cross the unnamed non-perennial minor drainage lines. If it is necessary for new crossings to be installed, clearing will be kept to a bare minimum and will be constructed flat level to the surface (i.e. a simple clearing with no bunds) to maintain the natural surface flow.

Table 15 provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle I.

Table 15: Assessment against Principle I components

Principle	Criteria	Assessment	Outcome
i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.	i1) Native vegetation should not be cleared if clearing the vegetation will reduce the quality of surface or underground water in proclaimed, gazetted or declared areas or catchments.	The clearing of native vegetation is not considered likely to alter the quality of surface or ground water within the Amendment Application Area due to the limited nature of the clearing within the Amendment Application Area.	Not at variance with clearing principle.
	i2) Native vegetation should not be cleared if sedimentation, erosion, turbidity or eutrophication of water bodies on or off site is likely to be caused or increased.	Localised erosion will not impact any waterbodies as clearing will be restricted to a bare minimum near surface water features and cleared areas that are no longer required will be revegetated.	Not at variance with clearing principle.
	i3) Native vegetation should not be cleared if water tables are likely to change significantly altering salinity or pH.	The clearing of native vegetation is not considered likely to alter the quality of surface or ground water within the Amendment Application Area.	Not at variance with clearing principle.
	i4) Native vegetation should not be cleared if the clearing is likely to alter the water regimes of groundwater-dependent ecosystems on or off site, causing degradation to the biological communities associated with these systems.	The clearing of native vegetation is not considered likely to alter the regimes of surface or groundwater dependent vegetation within the vicinity of the Amendment Application Area.	Not at variance with clearing principle.

6.10 PRINCIPLE J

Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding

This project is not likely to be at variance to this Principle.

Massive surface water runoff and localised flooding occurs following intense rainfall events during December to April. However, the incidence or intensity of flooding is not likely to be significantly influenced by the proposed vegetation clearing. It is highly improbable that surface runoff generated from the cleared area could create sufficient concentrated water volumes to cause even a localised flood event. Drainage infrastructure will be designed to ensure that post-construction flows will not differ significantly from pre-construction flows. Therefore the proposed clearing is unlikely to cause or exacerbate the incidence or intensity of flooding.

Table 16 provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle J.

Table 16: Assessment against Principle J components

Principle	Criteria	Assessment	Outcome
j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.	j1) Native vegetation should not be cleared if it is likely to lead to an incremental increase in peak flood height.	The clearing of native vegetation is not considered likely to cause any alteration to peak flood height.	Not at variance with clearing principle.
	j2) Native vegetation should not be cleared if it is likely to lead to an incremental increase in duration of flood peak.	The clearing of native vegetation is not considered likely to cause any impact on duration of flood peak.	Not at variance with clearing principle.

7 HERITAGE

BHP complies with the *Aboriginal Heritage Act 1972*, and all other state and federal heritage legislation. All land disturbance activities are subject to ethnographic and archaeological surveys as part of an internal PEAHR. The PEAHR process ensures that all heritage sites in the vicinity of the Project Area are identified and avoided where practicable.

The Amendment Application Area is located within the Banjima People Native Title Claim (WC2011/006) and the Nyiyaparli People Native Title Claim (WC2005/006). Ethnographic and archaeological surveys of the Application Area have been conducted in consultation with the Nyiyaparli people. A number of heritage sites were identified within the Amendment Application Area (site details are not provided here out of respect of the wishes of the Traditional Owners).

If any heritage site cannot practicably be avoided, BHP Iron Ore would consult the relevant traditional owners and seek approval under the *Aboriginal Heritage Act 1972* before the site is disturbed.

8 CONCLUSION

The proposed clearing of up to 50 ha within the proposed 2,793.2 ha Amendment Application Area is unlikely to have any significant negative impacts on biodiversity and environmental values in the area and is unlikely to be at variance to any of the Ten Clearing Principles.

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Figures

712000 716000 720000 724000 728000 732000 736000

7464000 7460000 7456000 7452000 7448000

Weeli Wolli Creek

Rio Tinto
Hope Downs

Rio Tinto
Rail Line

PORT HEDLAND

Legend

- Proposed Boundary for CPS 4619/4

BHP Environment Approvals

- MS 1072 (Mining Area C and South Flank)
- CPS 4468/3 (Jinidi Exploration NVCP)

0 2 4 6 8
Kilometers

BHP

ENVIRONMENTAL APPROVALS

N

JINIDI TO MAC GEOTECH

AMENDMENT OF NVCP CPS 4619/3
REGIONAL OVERVIEW

SCALE (A3): 1:75,000	DATUM: GDA2020/MGA 50	**FIGURE 1**
Prepared: Chris Hopkins	Revision: FINAL	
Centre: Perth	Date: 19 January 2026	Dwg: JND_009NVCP_001_RevA_0

712000 716000 720000 724000 728000 732000 736000

Document Path: G:\AssetDev\Env A&I\01 Approvals\15 Jinidi\02 NVCP\009 003 Renewal CPS 4619_3 Jinidi Rail\05 Spatial\JND_009NVCP_001_RevA_0.mxd

715000 720000 725000 730000

7465000 7460000 7455000

Legend

Proposed Boundary for CPS 4619/4

Significant Flora

- Acacia subtiliformis (Priority 3)
- Goodenia sp. East Pilbara (A.A. Mitchell PRP 727) (Priority 3)
- Rostellularia adscendens var. latifolia (Priority 3)
- Stylidium weeliwolli (Priority 3)

Broad Floristic Community

- Acacia Low Open Forest
- Acacia low woodland
- Acacia tall open shrubland
- Eriachne low open tussock grassland
- Eucalyptus Open Forest
- Eucalyptus mid woodland
- Eucalypus mid open woodland
- Themeda Tussock Grassland
- Triodia Hummock Grassland
- Triodia Open Hummock Grassland
- Triodia hummock grassland
- Triodia low hummock grassland
- Triodia low open hummock grassland
- Cleared

0 1,000 2,000 3,000 4,000
Meters

BHP ENVIRONMENTAL APPROVALS

N

JINIDI TO MAC GEOTECH
AMENDMENT OF NVCP CPS 4619/3 VEGETATION ASSOCIATIONS AND SIGNIFICANT FLORA

SCALE (A3): 1:50,000	DATUM: GDA2020/MGA 50	**FIGURE 2**
Prepared: Chris Hopkins	Revision: FINAL	
Centre: Perth	Date: 19 January 2026	Dwg: JND_009NVCP_002_RevA_0

715000 720000 725000 730000

7465000 7460000 7455000

Legend

Proposed Boundary for CPS 4619/4

Habitat Feature

- Cave
- Water Feature

Conservation Significant Vertebrate Fauna

- Dasyurus hallucatus (Northern Quoll) (EPBC Act and BC Act Endangered)
- Falco peregrinus (Peregrine Falcon) (BC Act Other Specially Protected Fauna)
- Pseudomys chapmani (Western Pebble-mound Mouse) (DBCA Priority 4)
- Underwoodisaurus seorsus (Pilbara Barking Gecko) (DBCA Priority 2)

Vertebrate Fauna Habitat

- Calcrete Plain
- Drainage Area/ Floodplain
- Minor Drainage Line
- Major Drainage Line
- Mulga Woodland
- Stony Plain
- Hillcrest/ Hillslope
- Gorge/ Gully
- Cleared

BHP

ENVIRONMENTAL APPROVALS

N

JINIDI TO MAC GEOTECH

AMENDMENT OF NVCP CPS 4619/3 SIGNIFICANT FAUNA AND VERTEBRATE FAUNA HABITAT

SCALE (A3): 1:50,000	DATUM: GDA2020/MGA 50	FIGURE 3
Prepared: Chris Hopkins	Revision: FINAL	
Centre: Perth	Date: 19 Januray 2026	Dwg: JND_009NVCP_003_RevA_0

0 1,000 2,000 3,000 4,000

Meters

Rio Tinto Rail Line

Appendices

Appendix 1: *Jinidi Two-season Detailed Flora & Vegetation Survey* (Biologic 2025)

Appendix 2: *Jinidi & Weeli Wolli targeted riparian & GDV Survey* (Biologic 2024a)

Appendix 3: ***Central Pilbara Hub: Detailed and targeted flora and vegetation assessment*** **(Biologic 2024b)**

Appendix 4: *Consolidation of Regional Vegetation Mapping BHP Billiton Iron Ore Pilbara Tenure* (Onshore 2014)

Appendix 5: *Jinidi Targeted Matters of Environmental Significance Vertebrate Fauna Survey* (Biologic 2024c)

Appendix 6: *Consolidated Fauna Habitat Mapping 2017* (Biologic 2018)