Application to Amend NVCP CPS 6834/2 Orebody 31 to Ophthalmia Dam Pipeline

Native Vegetation Clearing Permit Amendment Application Supporting Document

October 2025

Table of Contents

Tables

Figures

Appendices

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 6834/2 for the purposes of pipeline construction and maintenance and all associated activities. While this pipeline has been constructed BHP requires ongoing access for access and maintenance activities. Therefore, BHP is seeking to extend the duration of the permit and make the following changes:

- Reduce the boundary to exclude an area at Ophthalmia Dam
- 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
- Remove the word “Billiton” from the Permit Holder’s name.

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 6834/2 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 15 km east of Newman between Warrawandu Village and Ophthalmia Dam in the Pilbara region of Western Australia (**Figure 1**).

1.2 TENURE

The Amendment Application Area is located on Miscellaneous Licence 52/163.

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 proposal is:

Mr Chris Hopkins
Principal Environmental Approvals
BHP Iron Ore Pty Ltd
Level 40, 125 St George's Terrace
PERTH WA 6000
Phone: 0417 093 070
Email: chris.s.hopkins@bhp.com

1.5 PROJECT DESCRIPTION

The proposed works will involve clearing for the purposes of pipeline construction and maintenance and all associated activities.

1.6 MITIGATION HIERARCHY

1.6.1 Avoid

Multiple new records of Pilbara Olive Pythons have been identified in the vicinity of Ophthalmia Dam including numerous records of multiple individuals on the small island within the dam where the discharge point is located.

BHP has clipped back the proposed NVCP boundary to the minimum distance required to maintain the pipeline and discharge point, resulting in exclusion of most of the small island from the Amendment Application Area.

1.6.2 Minimise

Where practicable, any new ground disturbance for pipeline maintenance will be kept to previously disturbed areas.

If it is necessary for any new clearing within watercourses associated with the Amendment Application Area, the 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 10 of CPS 6834/2 (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	Orebody 31 Pipeline
Area to be cleared	20 hectares
Amendment Application Area	32.75 hectares
Purpose of the permit	Clearing for the purpose of pipeline construction and maintenance and all associated activities
Tenure	Miscellaneous Licence 52/163.
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:

	• JMB_007NVCP_001_RevB_0 • JND_007NVCP_002_RevB_0 • JND_007NVCP_003_RevB_0 BHP Shapefile D2 Reference: https://waio-dctm.bhp.com/D2/?docbase=bhpbio_od_prod&locateId=0b03c41a84d65d96&application=ManagedDocuments

Application Commitments	Section
In the event that a record of Priority flora is identified it will be avoided using a 10 m buffer, where practicable.	3.4.2 6.1
Control of established weed populations will be carried out according to BHP's standard Weed Control and Management Procedures.	3.4.3 6.7.4
Where practicable, existing cleared tracks will be used to cross Shovelanna Creek. If it is necessary for new crossings or pipelines 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.	3.6 6.2 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 commenced in 2012 with a total of 5.45 ha cleared to the end of FY25 (BHP 2025). The areas cleared under this NVCP are still required for the purpose for which they were cleared.

Clearing has been minimised by restricting activities to the minimum extent required for safety and equipment access and where practical, 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.

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 located in the Augustus subregion of the Gascoyne bioregion.

The Augustus subregion (GAS3) of the Gascoyne bioregion is described as: “Rugged low Proterozoic sedimentary and granite ranges divided by broad flat valleys. Also includes the Narryera Complex and Bryah Basin of the Proterozoic Capricorn Orogen (on northern margin of the Yilgarn Craton), as well as the Archaean Marymia and Sylvania Inliers. Although the Gascoyne River System provides the main drainage of this subregion, it is also the headwaters of the Ashburton and Fortescue Rivers. There are extensive areas of alluvial valley-fill deposits. Mulga woodland with *Triodia* occur on shallow stony loams on rises, while the shallow earthy loams over hardpan on the plains are covered by Mulga parkland. A desert climate with bimodal rainfall” (Desmond *et al*. 2001).

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

Divide: “Level to gently undulating sandplains and occasional small dunes.”

McKay: “Hills, ridges, plateaux remnants and minor breakaways of sedimentary and meta sedimentary rocks, relief up to 100 m.”

River: “Narrow floodplains and major channels.”

Washplain: “Level wash plains and tracts receiving more concentrated through flow with prominent grove patterns of vegetation, loamy and clayey soils of variable depth over hardpan, relief less than 10 m.”

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 soil type occur within the Amendment Application Area (CSIRO 2013):

Be6: “Extensive flat and gently sloping plains, which sometimes have a surface cover of gravels and on which red-brown hardpan frequently outcrops: chief soils are shallow earthy loams (Um5.3), with associated (Gn) soils of units My5O and Mz23 of Sheet 6. As mapped, there are inclusions of units Oc47 and BB9.

3.4 FLORA, VEGETATION AND FAUNA

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

- *Orebody 31 to Ophthalmia Dam Pipeline Level 1 Flora, Vegetation and Vertebrate Fauna Survey* (Onshore Environmental 2015) (**Appendix 1**);

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

- *Orebody 31 to Ophthalmia Dam Pipeline Level 1 Flora, Vegetation and Vertebrate Fauna Survey* (Biologic 2015) (**Appendix 1**); and
- *Consolidated Fauna Habitat Mapping 2017* (Biologic 2017) (**Appendix 2**);
- *Pilbara Olive Python Monitoring Western Ridge, Ophthalmia Dam and Millstream 2022-23* (Helix Molecular Solutions and Biota Environmental Science, 2024) (**Appendix 3**); and
- *Jimblebar targeted ghost bat survey* (GHD 2020).

3.4.1 Vegetation Communities

The Amendment Application Area is located within the Interim Biogeographic Regionalisation for Australia (IBRA) Gascoyne Bioregion. 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): 29 – Sparse low woodland; mulga, discontinuous in scattered groups.

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
Gascoyne IBRA Bioregion	18,075,219	18,067,441	99.96	1.93
Vegetation association 29 within Western Australia	7,903,991	7,900,200	99.95	0.29
Vegetation association 29 within the Gascoyne Bioregion	3,802,459	3,799,635	99.93	0.03

Onshore Environmental (2015) mapped a total of 10 broad floristic communities with 10 vegetation associations within the Amendment Application Area (**Table 3; Figure 2**). None of these vegetation associations are representative of a Threatened Ecological Community (TEC) or Priority Ecological Community (PEC) (Onshore Environmental 2015). Vegetation condition within the Application Area ranges from Excellent to Degraded (Onshore Environmental 2015). Vegetation adjacent to the Application Area is in similar condition to the vegetation of the Application Area.

Table 3: Vegetation associations of the Amendment Application Area (Onshore 2015)

Broad Floristic Formation	Vegetation Association Description	
Eucalyptus Woodland	1	Woodland of *Eucalyptus victrix* over Low Open Woodland of *Acacia citrinoviridis* and *Acacia aptaneura* over High Open Shrubland of *Melaleuca glomerata* and *Acacia pyrifolia* on medium drainage line.
Acacia Low Open Forest	2	Low Open Forest of *Acacia citrinoviridis*, *Acacia coriacea* subsp. *pendens* and *Eucalyptus victrix* over Open Tussock Grassland of **Cenchrus ciliaris*, *Eulalia aurea* and *Aristida holathera* var. *holathera* with Very Open Hummock Grassland of *Triodia pungens* on medium drainage lines.
Acacia Low Woodland	3	Low Woodland of *Acacia aptaneura*, *Acacia paraneura* and *Corymbia aspera* over Open Tussock Grassland of *Aristida inaequiglumis*, *Aristida contorta* and *Eneapogon polyphyllus* with Low Open Shrubland of *Ptilotus obovatus*, *Solanum lasiophyllum* and *Eremophila lanceolata* on sandy loam plains.
Sclerolaena Low Shrubland	4	Low Shrubland of *Sclerolaena cuneata*, *Sclerolaena costata* and *Streptoglossa odora* over Open Tussock Grassland of *Aristida inaequiglumis*, *Aristida contorta* and *Enterapogon ramosus* with Low Open Woodland of *Acaica aptaneura*, *Acacia paraneura* and *Hakea lorea* subsp. *lorea* on plains.
Triodia Hummock Grassland	5	Hummock Grassland of *Triodia basedowii* with High Open Shrubland of *Acacia aptaneura* and *Acacia pruinocarpa* and Low Open Shrubland of *Scaevola parvifolia*, *Sida cardiophylla* and *Ptilotus astrolasicus* on sand plains.
Triodia Open Hummock Grassland	6	Open Hummock Grassland of *Triodia basedowii* over Open Tussock Grassland of *Aristida inaequiglumis* and *Aristida contorta* with Low Open Woodland of *Acacia aptaneura* and *Acacia pruinocarpa* on sandy stony plains.

Broad Floristic Formation	Vegetation Association Description	
Chrysopogon Closed Tussock Grassland	7	Closed Tussock Grassland of *Chrysopogon fallax*, *Aristida inaequiglumis* and *Digitaria ammophila* with Low Open Forest of *Acacia aptaneura* and *Corymbia aspera* and Open Shrubland of *Eremophila forrestii* subsp. *forrestii* and *Eremophila fraseri* in broad drainage line.
Elytrophorus Tussock Grassland	8	Tussock Grassland of *Elytrophorus spicatus* over Sedges of *Schoenoplectus dissachanthus* (3 merous variant) and *Schoenoplectus laevis* with Low Open Woodland of *Eucalyptus camaldulensis* on wet fringe of lake bed.
Aristida Open Tussock Grassland	9	Open Tussock Grassland of *Aristida inaequiglumis*, *Aristida contorta* and *Eulalia aurea* with Low Open Woodland of *Acacia aptaneura* and *Eucalyptus camaldulensis* and Very Open Hummock Grassland of *Triodia basedowii* on plains.
Myriocephalus Herbs	10	Herbs of *Myriocephalus rudallii*, *Alternanthera nodiflora* and *Goodenia lamprosperma* with Low Woodland of *Eucalyptus camaldulensis* and Open Tussock Grassland of *Eragrostis kennedyae* and *Eragrostis tenellula* on drainage zone

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) or listed as Priority flora by the Department of Biodiversity, Conservation and Attractions (DBCA) have been identified within the Amendment Application Area.

In the event that a record of Priority flora is identified, it will be avoided using a 10 m buffer, where practicable.

3.4.3 Weeds

Seven introduced flora species (weeds) have been recorded within the Amendment Application Area (**Table 4**). Control of established weed populations will be carried out according to BHP's standard *Weed Control and Management Procedures.*

Table 4: 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
**Cenchrus ciliaris*	Buffel Grass	High and Rapid	No
**Cynodon dactylon*	Couch	High and Rapid	No
**Malvastrum americanum*	Spiked Malvastrum	High and Rapid	No
**Rumex vesicarius*	Ruby Dock	High and Rapid	No
**Setaria verticillata*	Whorled Pigeon Grass	High and Rapid	No
**Vachellia farnesiana*	Mimosa Bush	High and Rapid	No

3.4.4 Fauna Habitats and Significant Fauna

Biologic (2017) identified five fauna habitat types within the Application Area (**Figure 3**):

1. **Mulga:** This habitat includes woodlands and other ecosystems in which Mulga (*Acacia aptaneura*) is dominant, either as the principal acacia or mixed with others. It consists of disintegrating groves on stony soils with spinifex.
2. **Stony Plain:** These are erosional surfaces of gently undulating plains. Mainly support hard spinifex (and occasionally soft spinifex) with a mantle of gravel and pebbles. Within this habitat type there are small patches of sand.
3. **Sand Plain:** Sand Plain habitat is characterised by relatively deep sandy soils supporting dense spinifex grasslands and sparse shrubs. This habitat transitions into patches of Mulga in places.
4. **Major Drainage Line:** This habitat comprises mature River Red Gums and Coolibahs over temporary river pools. Open, sandy or gravelly riverbeds characterise this habitat type. In ungrazed areas, the vegetation adjacent to the main channel or channels is denser, taller and more diverse.

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

5. **Artificial Habitat – Dam:** Ophthalmia Dam is one of the largest water bodies in the Pilbara and is a resource for the town of Newman. Leading up to the wet season, the water body generally reduces in size and is likely to no longer overlap the Application Area.

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

- Pilbara Olive Python (*Liasis olivaceus* subsp. *barroni*) (EPBC Act and BC Act Vulnerable).

Based on the occurrence of the habitat types and significant fauna species previously recorded in the vicinity, an additional twelve 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):

- Common Greenshank (*Tringa nebularia*) (EPBC Act and BC Act Migratory)
- Common Sandpiper (*Tringa hypoleucos*) (EPBC Act and BC Act Migratory)
- Curlew sandpiper (Calidris ferruginea) (Critically Endangered and Migratory, EPBC Act and Critically Endangered BC Act)
- Fork-tailed Swift (*Apus pacificus*) (EPBC Act and BC Act Migratory)
- Glossy Ibis (*Plegadis falcinellus*) (EPBC Act and BC Act Migratory)
- Long-toed Stint (*Calidris subminuta*) (EPBC Act and BC Act Migratory)
- Oriental Plover (*Charadrius veredus*) (EPBC Act and BC Act Migratory)
- Peregrine Falcon (*Falco peregrinus*) (Other Specially Protected Fauna BC Act)
- Pilbara Flat-headed Blind Snake (*Anilios ganei*) (DBCA Priority 1)
- Red-necked Stint (*Calidris ruficollis*) (EPBC Act and BC Act Migratory)
- Sharp-tailed Sandpiper (*Calidris acuminata*) (EPBC Act and BC Act Migratory)
- Wood Sandpiper (*Tringa glareola*) (EPBC Act and BC Act Migratory).

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 5**.

Table 5: Significant Fauna Potentially Occurring within the Amendment Application Area

Significant Species	Conservation Status	Distribution and Ecology	Habitat Relevance	Likelihood	Potential Impact on Species
Birds					
Common Greenshank (*Tringa nebularia*)	Migratory EPBC Act Migratory BC Act	The Common Greenshank is a nonbreeding migratory shorebird common along most of the coast of Western Australia (Geering et al. 2007). This species occurs both in coastal areas and inland, where it inhabits estuaries, mudflats, mangroves, lagoons, billabongs, sewage farms and flooded cropland (Birds Australia 2010).	The Common Greenshank may use the habitats within the Amendment Application Area. The only records of this species in the vicinity of the Amendment Application Area are from the Whaleback Tailings Dam and Ophthalmia Dam.	Possible	**Low** The proposed activities are unlikely to have an impact on this species given its high mobility and the presence of large areas of its preferred habitat in the surrounding areas of the northern section of the Amendment Application Area and in the same or better condition to that of the Amendment Application Area.
Common Sandpiper (*Actitis hypoleucos*)	Migratory EPBC Act Migratory BC Act	*Actitis hypoleucos* is a nonbreeding migratory shorebird which utilises a wide range of coastal wetlands and some inland wetlands, with varying levels of salinity, and is mostly found around muddy margins or rocky shores and rarely on mudflats. The muddy margins utilised by the species are often narrow, and may be steep. The species is often associated with mangroves, and sometimes found in areas of mud littered with rocks or snags (Geering *et al*. 2007).	The Common Sandpiper may use the habitats within the Amendment Application Area. The only records of this species in the vicinity of the Amendment Application Area are from Ophthalmia Dam, which provides a more characteristic habitat for this species.	Possible	**Low** The proposed activities are unlikely to have an impact on this species given its high mobility and large areas of its preferred habitat are present in the surrounding region of the Amendment Application Area.
Curlew Sandpiper (*Calidris ferruginea*)	Critically Endangered and Migratory EPBC Act Critically Endangered (BC Act)	The Curlew Sandpiper is a summer non-breeding migratory shorebird that occurs along most of the coast of Western Australia (Geering *et al*. 2007). It inhabits exposed tidal mudflats, and is less frequently found on inland freshwater wetlands (Geering *et al*., 2007). This Migratory bird breeds in Siberia and migrates to Australian waters in August to April (Pizzey and Knight 2007). It is abundant to common around Perth and Mandurah. This species is found in coastal and inland mudflats and sometimes on salt works (Simpson and Day 2004).	The Curlew Sandpiper has been previously recorded adjacent to the Application Area (MWH, 2015). The record adjacent to the Amendment Application Area at Ophthalmia Dam represents the only inland DBCA record for north-west WA (MWH, 2015).	Possible	**Low** The proposed activities are unlikely to have an impact on this species given its high mobility and large areas of its preferred habitat are present in the surrounding region of the Amendment Application Area.
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.
Glossy Ibis (*Plegadis falcinellus*)	Migratory EPBC Act Migratory BC Act	The Glossy Ibis inhabits areas of freshwater wetlands, irrigated areas, and margins of dams, floodplains, brackish and saline wetlands, tidal mudflats, pastures, lawns and public gardens (Johnstone and Storr, 2004). This species is a casual vagrant in dry and hilly areas and is mainly a non-breeding visitor to Western Australia (Johnstone and Storr 1998).	The Glossy Ibis may use the Artificial Habitat – Dam habitat of the Amendment Application Area. The only records of this species in the vicinity of the Amendment Application Area are from Ophthalmia Dam, which provides a more characteristic habitat.	Possible	**Low** The proposed activities are unlikely to have an impact on this species given its high mobility and large areas of its preferred habitat are present in the surrounding region of the Amendment Application Area.
Long-toed Stint (*Calidris subminuta*)	Migratory EPBC Act Migratory BC Act	The Long-toed Stint is a moderately common summer non-breeding migrant that occurs along the coast and inland waterways of Western Australia. It inhabits mainly inland freshwater swamps, lagoons, claypans, sewerage ponds, salt lakes and estuaries (Johnstone and Storr 1998). This Migratory bird breeds in Siberia to the North Pacific and migrates to Australian waters in August to April (Pizzey and Knight 2007). This species prefers coastal and inland swamps for habitat (Simpson and Day 2004).	This species may forage within the Amendment Application Area (Major Drainage Line and Artificial Habitat – Dam habitats), but is unlikely to be reliant upon the Amendment Application Area.	Possible	**Low** The proposed activities are unlikely to have an impact on this species given its high mobility and large areas of its preferred habitat are present in the surrounding region of the Amendment Application Area.
Oriental Plover (*Charadrius veredus*)	Migratory EPBC Act Migratory BC Act	The Oriental Plover occurs in the Kimberley and in the north-eastern interior at Lake Gregory and on the north-west coastal plains (Johnstone and Storr, 1998). It is found on sparsely vegetated plains including Samphire, Spinifex plains (particularly after fire), as well as beaches and tidal flats (Johnstone and Storr 1998). This species often feeds on insects (Johnstone and Storr 1998).	This species may forage within the Amendment Application Area (Major Drainage Line and Artificial Habitat – Dam habitats), but is unlikely to be reliant upon the Amendment Application Area.	Possible	**Low** The proposed activities are unlikely to have an impact on this species given its high mobility and large areas of its preferred habitat are present in the surrounding region of the Amendment Application 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).	This species may forage within Amendment Application Area, but is unlikely to be reliant upon the Amendment Application Area due to the absence of its preferred habitat types (e.g. cliffs) and the absence of suitable nesting habitat.	Possible	**Low** The proposed activities are unlikely to have an impact on this species given its high mobility and large areas of its preferred habitat are present in the surrounding region of the Amendment Application Area.
Red-necked Stint (*Calidris ruficollis*)	Migratory EPBC Act Migratory BC Act	The Red-necked Stint is a summer non-breeding migratory shorebird that occurs along most of the coast of Western Australia (Geering *et al*. 2007). It inhabits a wide range of fresh and saltwater habitats (Geering *et al*. 2007). This Migratory bird breeds in Siberia and Alaska and migrates to Australian waters in August to April (Pizzey and Knight 2007). This species requires marine waters for habitat such as coastal and inland shores (Simpson and Day 2004).	This species may forage within the Amendment Application Area (Major Drainage Line and Artificial Habitat – Dam habitats), but is unlikely to be reliant upon the Amendment Application Area.	Possible	**Low** The proposed activities are unlikely to have an impact on this species given its high mobility and large areas of its preferred habitat are present in the surrounding region of the Amendment Application Area.

Significant Species	Conservation Status	Distribution and Ecology	Habitat Relevance	Likelihood	Potential Impact on Species
Sharp-tailed Sandpiper (*Calidris acuminata*)	Migratory EPBC Act Migratory BC Act	The Sharp-tailed Sandpiper is a summer non-breeding migratory shorebird that occurs along most of the coast of Western Australia except for the south coast, and in well watered parts of the interior and casually in the arid east south of Lake Gregory (Johnstone and Storr, 1998). The Sharp-tailed Sandpiper uses fresh and salt water wetlands as its preferred habitat. Eighty Mile Beach has peak numbers in August to September (Johnstone and Storr, 1998). It inhabits both coastal and inland areas but prefers non-tidal fresh or brackish wetlands (Geering *et al*., 2007).	This species may forage within the Amendment Application Area (Major Drainage Line and Artificial Habitat – Dam habitats), but is unlikely to be reliant upon the Amendment Application Area.	Possible	**Low** The proposed activities are unlikely to have an impact on this species given its high mobility and large areas of its preferred habitat are present in the surrounding region of the Amendment Application Area.
Wood Sandpiper (*Tringa glareola*)	Migratory EPBC Act Migratory BC Act	The Wood Sandpiper is a summer non-breeding migratory shorebird that occurs along the coast and inland regions of Western Australia. It primarily inhabits shallow fresh waters such as lagoons, swamps, claypans, dams and sewerage ponds (Johnstone and Storr 1998; Geering *et al*., 2007).	The Wood Sandpiper is considered a regular summer visitor to Ophthalmia Dam and likely passage migrant (MWH, 2015). This species may forage within the Application Area but is unlikely to be reliant upon the Amendment Application Area large areas of suitable habitat are found in the broader region.	Possible	**Low** The proposed activities are unlikely to have an impact on this species given its high mobility and large areas of its preferred habitat are present in the surrounding region of the Amendment Application Area.
Reptiles					
Pilbara Flat-headed Blind Snake (*Anilios ganei*)	Priority 1 DBCA	The Pilbara Flat-Headed Blind Snake is endemic to the Pilbara. This insectivorous species feeds on termites and their eggs, and larvae and pupae of ants (Wilson and Swan, 2008). This species is fossorial and is rarely encountered. There are few records of the species in the Pilbara, however, given the species preference for rocky stony soils, it could occur broadly across the region.	Little is known about this species habitat preferences and it may occur within habitats of the Application Area. This species may occur in the mulga, stony plain and sand plain habitats of the Amendment Application Area.	Possible	**Low** This species may utilise the habitat types within the Amendment Application Area however is unlikely to be reliant on the areas within the Amendment Application Area, particularly as its preferred habitat (believed to be gorge/gully) is absent from the Amendment Application Area.
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).	There are five records of transitory individuals within the southwestern end of the Amendment Application Area at Ophthalmia Dam. These records are related to a large population of Pilbara Olive Pythons located on a small island within Ophthalmia Dam (Helix Molecular Solutions and Biota Environmental Sciences, 2024). This Island and its surrounds have been clipped out of the Amendment Application Area.	Recorded	**Low** The impact upon this species is likely to be low the key habitat within Ophthalmia Dam has been clipped out of 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. The existing and any future activities undertaken in accordance with this permit would not impact on this species ability to transit across the Amendment Application 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 is one 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 2015)".

3.6 SURFACE WATER

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

There are two surface water features within the Application Area:

- Shovelanna Creek, a non-perennial creek, crosses the Application Area
- Ophthalmia Dam.

Streamflow is ephemeral and associated with high rainfall events during December to April.

Where practicable, existing cleared tracks will be used to cross Shovelanna Creek. If it is necessary for new crossings or pipelines 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 proposal 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 6 provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle A.

Table 6: 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.	No Priority flora species have been recorded in the Amendment Application Area. In the event that a record of Priority flora is identified it will be avoided using a 10 m buffer, where practicable.	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 proposal is not likely to be at variance to this Principle.

There are five 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.

One fauna species of significance has been recorded from within the Amendment Application Area with an additional 12 species considered to potentially occur within the Amendment Application Area (**Table 5**). As described in **Section 3.4.4** and **Table 5** clearing of the Amendment Application Area is expected to have a low impact on these species.

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

Table 7: 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.	One BC Act protected species has been recorded from the Amendment Application and 11 BC Act protected species are considered 'possible' or 'likely' to occur within the Amendment Application Area (**Table 5**). 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; • An island within Ophthalmia Dam that is a key habitat for the Pilbara Olive Python has been mostly excluded from the Amendment Application Area; • All species are only likely to be transient visitors to the Amendment Application Area; • These species do not exclusively depend on any habitat type or feature within the Amendment Application Area; and • 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 is considered 'possible' to occur within the Amendment Application Area. As detailed in **Table 6** this species are unlikely to be impacted as: • This species preferred habitat is missing from the Amendment Application and is therefore only likely to be transient visitor; • This species is known from multiple records outside the Amendment Application Area; and • 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.	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.
	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.

Principle	Criteria	Assessment	Outcome
	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.	The drainage line habitats may be used as corridors by fauna. Where practicable, existing cleared tracks will be used to cross Shovelanna Creek. If it is necessary for new crossings or pipelines 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. 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 proposal 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. No species listed as Priority Flora by the DBCA have been recorded in the Amendment Application Area (**Section 3.4.2**).

Error! Reference source not found.**8** provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle C.

Table 8: 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 proposal is not likely to be at variance to this Principle.

The Amendment Application Area falls partly within the boundary of the TEC Ethyl Gorge aquifer stygobiont community. Clearing of vegetation is unlikely to impact of this groundwater community.

No other TECs, Environmentally Sensitive Areas or PECs are located in the Amendment Application Area.

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

Table 9: 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.	No significant ecological communities are known to occur or are likely to occur within the Amendment Application Area.	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.	No DBCA listed PECs or associated native vegetation will be impacted by the proposed works.	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 proposal 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 10 provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle E.

Table 10: 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 proposal is unlikely to be at variance to this Principle.

There are two surface water features within the Application Area:

- Shovelanna Creek, a non-perennial creek
- Ophthalmia Dam.

Streamflow in Shovelanna Creek is ephemeral and associated with high rainfall events during December to April.

Clearing within the Major Drainage Line habitat will be minimised, but will need to be undertaken to allow for this construction and ongoing maintenance of the water pipeline and associated activities.

Where practicable, existing cleared tracks will be used to cross Shovelanna Creek. If it is necessary for new crossings or pipelines 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 11 provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle F.

Table 11: 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.	The constructed wetland of Ophthalmia Dam is located in the western end of the Amendment Application Area. The proposed works will not have any significant impact on the environmental values of the dam.	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).	The constructed wetland of Ophthalmia Dam is located in the western end of the Amendment Application Area. A small amount of fringing vegetation will need to be cleared to allow for the pipeline construction and maintenance. The proposed works will not have any significant impact on the environmental values of the dam.	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.	A non-perennial drainage line runs through the Amendment Application Area, Shovelanna Creek. Where practicable, existing cleared tracks will be used to cross Shovelanna Creek. If it is necessary for new crossings or pipelines 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.	Unlikely to be 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 proposal 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 12** 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

Seven 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 12: 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 proposal 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 areas are Collier Range National Park (124 km south) and Karijini National Park (134 km north-east) 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 13** below.

Table 13: 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 134 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 proposal 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.

Where practicable, existing cleared tracks will be used to cross Shovelanna Creek. If it is necessary for new crossings or pipelines 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 14 provides an assessment of the proposed clearing activities within the Amendment Application Area against the components of clearing Principle I.

Table 14: 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 groundwater 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 groundwater 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 proposal 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. Therefore, the proposed clearing is unlikely to cause or exacerbate the incidence or intensity of flooding.

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

Table 15: 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 Nyiyaparli People Native Title Claim (WC2005/006). Ethnographic and archaeological surveys of the Application Area have been conducted in consultation with the Nyiyaparli people. One heritage site has been identified within the 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 20 ha within the 32.75 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.

9 REFERENCES

Beard, JS (1975) *Vegetation Survey of Western Australia; Sheet 5 Pilbara*. University of Western Australia Press, Perth, Western Australia.

BHP (2025) *BHP Iron Ore Annual Environmental Report July 2024 – June 2025*.

Biologic (2015) *Orebody 31 to Ophthalmia Dam Pipeline Level 1 Flora, Vegetation and Vertebrate Fauna Survey.* Unpublished report prepared for BHP Pty Ltd.

Biologic (2017) *Consolidated Fauna Habitat Mapping 2017.* Unpublished report prepared for BHP Pty Ltd.

Birds Australia (2010) *Birdata*. http://www.birdata.com.au/homecontent.do . Last accessed October 2010.

BoM (Bureau of Meteorology) (2025a) Climate statistics for Australian locations – Newman Aero. Website: http://www.bom.gov.au/climate/averages/tables/cw_007176_All.shtml Accessed: 22 May 2025.

BoM (2025b) Climate statistics for Australian locations – Wittenoom. Website: http://www.bom.gov.au/climate/averages/tables/cw_005026_All.shtml Accessed: 22 May 2025.

CSIRO (2013) *Australian Soil Resource Information System (ASRIS).* Available from: http://www.asris.csiro.au/index.html, Accessed 31/03/2021.

Department of Parks and Wildlife (2016) *Pilbara DPaW Region Weeds impact and invasiveness ratings*.

Department of Water (2009a). *Groundwater Proclamation Areas 2009*. Accessed 19 February 2015 at http://www.water.wa.gov.au/PublicationStore/first/86307.pdf.

Department of Water (2009b) *Surface Water Proclamation Areas 2009*. Accessed 19 February 2015 at http://www.water.wa.gov.au/PublicationStore/first/86306.pdf.

Department of Water (2015) *Hydrogeological Atlas: Hamersley – Fractured Rock*. http://www.water.wa.gov.au/idelve/hydroatlas/ioiQuery.jsp?ts=1421024384008&d=hydroatlas&bb=116.2710462,-23.570724506092837,119.38272319999999,-21.29263989390716&k=NONE&w=1034&h=757&z=1003199.8498259148&x=118.62436478220502&y=-23.254741832011604&i=782&j=652 Accessed 12 January 15.

Desmond, A; Kendrick, P and Chant, A (2001) *Gascoyne 3 (GAS3 – Augustus subregion). In: A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002*. Department of Conservation and Land Management, Western Australia.

Geering, A, Agnew, L and Harding, S (2007) *Shorebirds of Australia*. CSIRO Publishing, Collingwood, Victoria.

GHD (2020) *Jimblebar targeted ghost bat survey*. Unpublished report prepared for BHP Pty Ltd.

Government of Western Australia. (2013) *2013 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Simplified)*. Current as of June 2013. WA Department of Parks and Wildlife, Perth.

Helix Molecular Solutions and Biota Environmental Sciences (2024) *Pilbara Olive Python Monitoring Western Ridge, Ophthalmia Dam and Millstream 2022-23*. Unpublished report prepared for BHP Pty Ltd.

Johnstone, RE and G.M., Storr (1998) *Handbook of Western Australian Birds: Volume 1 – Non-passerines (Emu to Dollarbird).* Western Australian Museum, Perth, Western Australia.

Johnstone, RE and Storr, GM (2004) *Handbook of Western Australian Birds: Volume 2 – Passerines (Blue-winged Pitta to Goldfinch).* Western Australian Museum, Perth, Western Australia.

Kendrick, P and McKenzie, N (2001) *Pilbara 3 (PIL3 – Hamersley subregion). In: A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002*. Department of Conservation and Land Management, Western Australia.

MWH (2015) *Ophthalmia Dam Avian Fauna Survey*. Unpublished report prepared for BHP Pty Ltd.

Onshore Environmental (2015) *Orebody 31 to Ophthalmia Dam Pipeline Level 1 Flora, Vegetation and Vertebrate Fauna Survey*. Unpublished report prepared for BHP Pty Ltd.

Pizzey, G and Knight, F (2007) *The Field Guide to the Birds of Australia*. Eighth Edition, Harper Collins, Sydney New South Wales.

Simpson K and Day N (2004). *A Field Guide to the Birds of Australia*. Penguin Books Australia Ltd, Melbourne.

van Vreeswyk, A.M.E, Payne, A.L, Leighton, K.A. and Hennig, P. (2004) *An inventory and condition survey of the Pilbara region, Western Australia*. Western Australian Department of Agriculture Technical Bulletin No. 92.

Wilson, S and Swan, G (2008) *Reptiles of Australia. Second Edition*, New Holland Publishers, Australia.

Wilson, S and Swan, G (2017) *A Complete Guide to Reptiles of Australia*. New Holland Publishers, Australia.

Figures

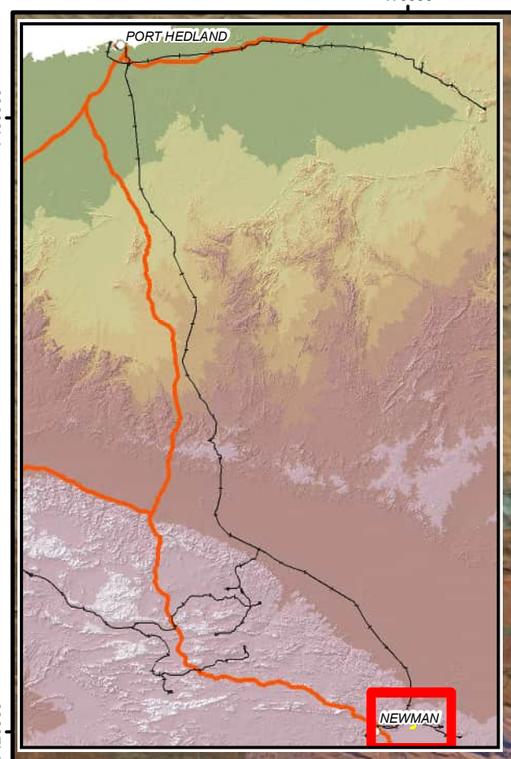
BHP

ENVIRONMENTAL APPROVALS

RENEWAL OF NVCP CPS 6834/2 OREBODY 31 PIPELINE

REGIONAL OVERVIEW

SCALE (A3): 1:100,000	DATUM: GDA2020/MGA51	FIGURE 1
Prepared: Chris Hopkins	Revision: FINAL	
Centre: Perth	Date: 07 July 2025	Dwg: JIM_007NVCP_001_RevC_0



BHP Newman to Port Hedland Rail Line

Eastern Ridge

Shovelanna Creek

Orebody 18

Orebody 31

Discharge Point

Ophthalmia Dam

Newman

Great Northern Highway

Jimblebar

Legend

Proposed Boundary NVCP CPS 6834/3

0 1.5 3 4.5 6
Kilometers

170000 180000 190000 200000

7430000 7420000 7410000

Document Path: G:\AssetDev\Env A&I\01 Approvals\04 Jim Hub\02 NVCP\007 NVCP CPS 6834_2 OB31 Pipeline Renewal\05 Spatial\JIM_007NVCP_001_RevC_0.mxd

182500 183000 183500 184000 184500 185000

7415500 7415000 7414500 7414000

Legend

Proposed Boundary NVCP CPS 6834/3

Vegetation Association Mapping

- Acacia Low Open Forest (2)
- Acacia Low Woodland (3)
- Acacia Tall Open Scrub (10c)
- Aristida Open Tussock Grassland (9)
- Chrysopogon Closed Tussock Grassland (7)
- Elytrophorus Tussock Grassland (8)
- Eucalyptus Woodland (1)
- Myriocephalus Herbs (10)
- Sclerolaena Low Shrubland (4)
- Triodia Hummock Grassland (5)
- Triodia Open Hummock Grassland (6)
- Lake bed
- Disturbed

Shovelanna Creek

Ophthalmia Dam

Discharge Point

0 100 200 300 400
Meters

BHP ENVIRONMENTAL APPROVALS

N

RENEWAL OF NVCP CPS 6834/2 OREBODY 31 PIPELINE

VEGETATION ASSOCIATIONS

SCALE (A3): 1:7,500	DATUM: GDA2020/MGA51	FIGURE 2
Prepared: Chris Hopkins	Revision: FINAL	
Centre: Perth	Date: 07 July 2025	Dwg: JIM_007NVCP_002_RevC_0

Document Path: G:\AssetDev\Env A&I\01 Approvals\04 Jim Hub\02 NVCP\007 NVCP CPS 6834_2 OB31 Pipeline Renewal\05 Spatial\JIM_007NVCP_002_RevC_0.mxd

182500 183000 183500 184000 184500 185000

7415500 7415000 7414500 7414000

Legend

Conservation Significant Vertebrate Fauna

- ☆ Liasis olivaceus subsp. barroni (Pilbara Olive Python) (EPBC Act and BC Act Vulnerable)
- Proposed Boundary NVCP CPS 6834/3

Vertebrate Fauna Habitat

- Artificial Wetland
- Drainage Area/ Floodplain
- Major Drainage Line
- Mulga Woodland
- Sand Plain
- Stony Plain
- Cleared/ Disturbed

Shovelanna Creek

Ophthalmia Dam

Discharge Point

0 100 200 300 400
Meters

BHP ENVIRONMENTAL APPROVALS

N

RENEWAL OF NVCP CPS 6834/2 OREBODY 31 PIPELINE

VERTEBRATE FAUNA HABITAT AND SIGNIFICANT FAUNA

SCALE (A3): 1:7,500	DATUM: GDA2020/MGA51	FIGURE 3
Prepared: Chris Hopkins	Revision: FINAL	
Centre: Perth	Date: 07 July 2025	Dwg: JIM_007NVCP_003_RevC_0

Document Path: G:\AssetDev\Env A&I\01 Approvals\04 Jim Hub\02 NVCP\007 NVCP CPS 6834_2 OB31 Pipeline Renewal\05 Spatial\JIM_007NVCP_003_RevC_0.mxd

Appendices

Appendix 1: Orebody 31 to Ophthalmia Dam Pipeline Level 1 Flora, Vegetation and Vertebrate Fauna Survey (Onshore Environmental, 2015)

Appendix 3: Consolidated Fauna Habitat Mapping 2017 (Biologic, 2017)

Appendix 3: Pilbara Olive Python Monitoring Western Ridge, Ophthalmia Dam and Millstream 2022-23 (Helix Molecular Solutions and Biota Environmental Sciences, 2024)