GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10292/1
Permit Holder:	BHP Iron Ore Pty Ltd
Duration of Permit:	From 09 February 2024 to 09 February 2034

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of removing rail sleepers, soil contaminant testing, and *revegetation*.

2. Land on which clearing is to be done

Lot 1580 on Deposited Plan 72910, Newman

Lot 99 on Deposited Plan 220355, Newman

3. Clearing authorised

The permit holder must not clear more than 16.26 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 09 February 2029.

PART II – MANAGEMENT CONDITIONS

5. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

(a) avoid the clearing of *native vegetation*;

(b) minimise the amount of *native vegetation* to be cleared; and

(c) reduce the impact of clearing on any environmental value.

6. Weed management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

(b) ensure that no known *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and

(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

7. Wind and water erosion management

The permit holder must commence activities authorised under this permit no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind and water erosion.

8. Directional clearing

The permit holder must conduct clearing activities in a slow, progressive manner towards adjacent *native vegetation* to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

9. Fauna management – Northern quoll

(a) In relation to the area cross-hatched yellow in Figure 1, Figure 2 and Figure 3 of Schedule 1, the permit holder must engage a *fauna specialist* to inspect that area immediately prior to, and for the duration of clearing activities, for the presence of northern quoll(s) (*Dasyurus hallucatus*).

(b) Clearing activities must cease in any area where fauna referred to in condition 8(a) are identified until either:

  (i) the northern quoll individual(s) has moved on from that area to adjoining suitable habitat.

  (ii) the northern quoll individual(s) has been removed by a *fauna specialist*.

(c) Any northern quoll individual(s) removed in accordance with condition 8(b)(ii) must be relocated by a *fauna specialist* to an area of *suitable habitat*, in accordance with a section 40 authorisation under the *Biodiversity Conservation Act 2016*.

(d) Where fauna is identified under condition 8(a), the permit holder must within 14 calendar days provide the following records to the *CEO*:

  (i) the number of individuals identified;

  (ii) the date each individual was identified;

  (iii) the location where each individual was identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;

  (iv) the number of individuals removed and relocated;

  (v) the relevant qualifications of the *fauna specialist* undertaking removal and relocation;

(vi) the date each individual was removed;

(vii) the method of removal;

(viii) the date each individual was relocated;

(ix) the location where each individual was relocated to, recorded using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees; and

(x) details pertaining to the circumstances of any death of, or injury sustained by, an individual.

10. Revegetation and rehabilitation (temporary works)

(a) The permit holder must retain the vegetative material and topsoil removed by clearing authorised under this permit and stockpile the vegetative material and topsoil in an area that has already been cleared.

(b) Within 12 months of the area no longer being required for the purpose for which it was cleared, the permit holder must commence *revegetating* and *rehabilitating* the areas cross-hatched yellow on Figure 1, Figure 2 and Figure 3 of Schedule 1, by way of:

(i) re-shaping the surface of the land so that it is consistent with the surrounding five metres of uncleared land;

(ii) ripping the ground on the contour to remove soil compaction;

(iii) laying the vegetative material and topsoil retained under condition 10(a) on the cleared area(s); and

(iv) undertake *weed* control activities on an 'as needed' basis to reduce *weed* cover within the cleared areas to no greater than the *weed* cover within the surrounding five (5) metres of uncleared land.

(c) The permit holder must within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 10(b) of this permit:

(i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and

(ii) engage an *environmental specialist* to make a determination as to whether the composition, structure and density determined under condition 10(c)(i) of this permit will, without further *revegetation*, result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area.

(d) If the determination made by the *environmental specialist* under condition 10(c)(ii) is that the species composition, structure, and density determined under condition 10(c)(i) will not, without further *revegetation*, result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, the permit holder must *revegetate* the area by deliberately planting and/or *direct seeding native vegetation* seeds that will result in a similar species composition, structure, and density of *native vegetation* to pre-clearing vegetation types in that area.

(e) Where additional planting or *direct seeding* of *native vegetation* is undertaken in accordance with condition 10(d), the permit holder must repeat the activities required by condition 10(c) and 10(d) within 24 months of undertaking the additional planting or *direct seeding* of *native vegetation*.

(f) Where a determination is made by an *environmental specialist* under condition 10(c)(ii) that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, that determination shall be submitted to the *CEO* within three months of the determination being made by the *environmental specialist*.

PART III - RECORD KEEPING AND REPORTING

11. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the direction of clearing; (e) the size of the area cleared (in hectares); (f) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5; (g) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 6; (h) actions taken to minimize the risk of wind and water erosion in accordance with condition 8; and (i) actions taken to manage and mitigate impacts to the northern quoll in accordance with condition 9.
2.	In relation to *revegetation* and *rehabilitation* pursuant to condition 10	(a) size of the areas *revegetated* and *rehabilitated*; (b) the date(s) on which the *revegetation* and *rehabilitation* was undertaken; (c) the boundaries of the areas *revegetated* and *rehabilitated* (recorded digitally as a shapefile); (d) description of the *revegetation* and *rehabilitation* activities undertaken, including actions taken to implement hygiene protocols and *weed* control;

No.	Relevant matter	Specifications
		(e) any remediation actions undertaken; and (f) determinations made by the *environmental specialist*.

12. Reporting

The permit holder must provide to the *CEO* the records required under condition 11 of this permit when requested by the *CEO*.

DEFINITIONS

In this permit, the terms in Table 2 have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of *Phytophthora* species on native vegetation.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
direct seeding	means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of 2 years work experience relevant to the type of environmental advice that an environmental specialist is required to provide under this permit, or who is approved by the *CEO* as a suitable environmental specialist.
EP Act	*Environmental Protection Act 1986* (WA)
fauna specialist	means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the *CEO* as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Biodiversity Conservation Act 2016*.
fill	means material used to increase the ground level, or to fill a depression.
local provenance	means native vegetation seeds and propagating material from natural sources within 200 kilometres and the same IBRA subregion of the area cleared
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
rehabilitate/ rehabilitated/ rehabilitation	means actively managing an area containing native vegetation in order to improve the ecological function of that area.

Term	Definition
revegetate/ revegetated/ revegetation	means the re-establishment of a cover of local provenance native vegetation in an area using methods such as natural regeneration, direct seeding and/or planting, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.
suitable habitat (northern quoll)	means habitat known to support the northern quoll within the known current distribution of the species. This often includes predominantly rocky habitats often with gorges, breakaways and hills, with rugged rocky areas.
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

16 January 2024

Schedule 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1).

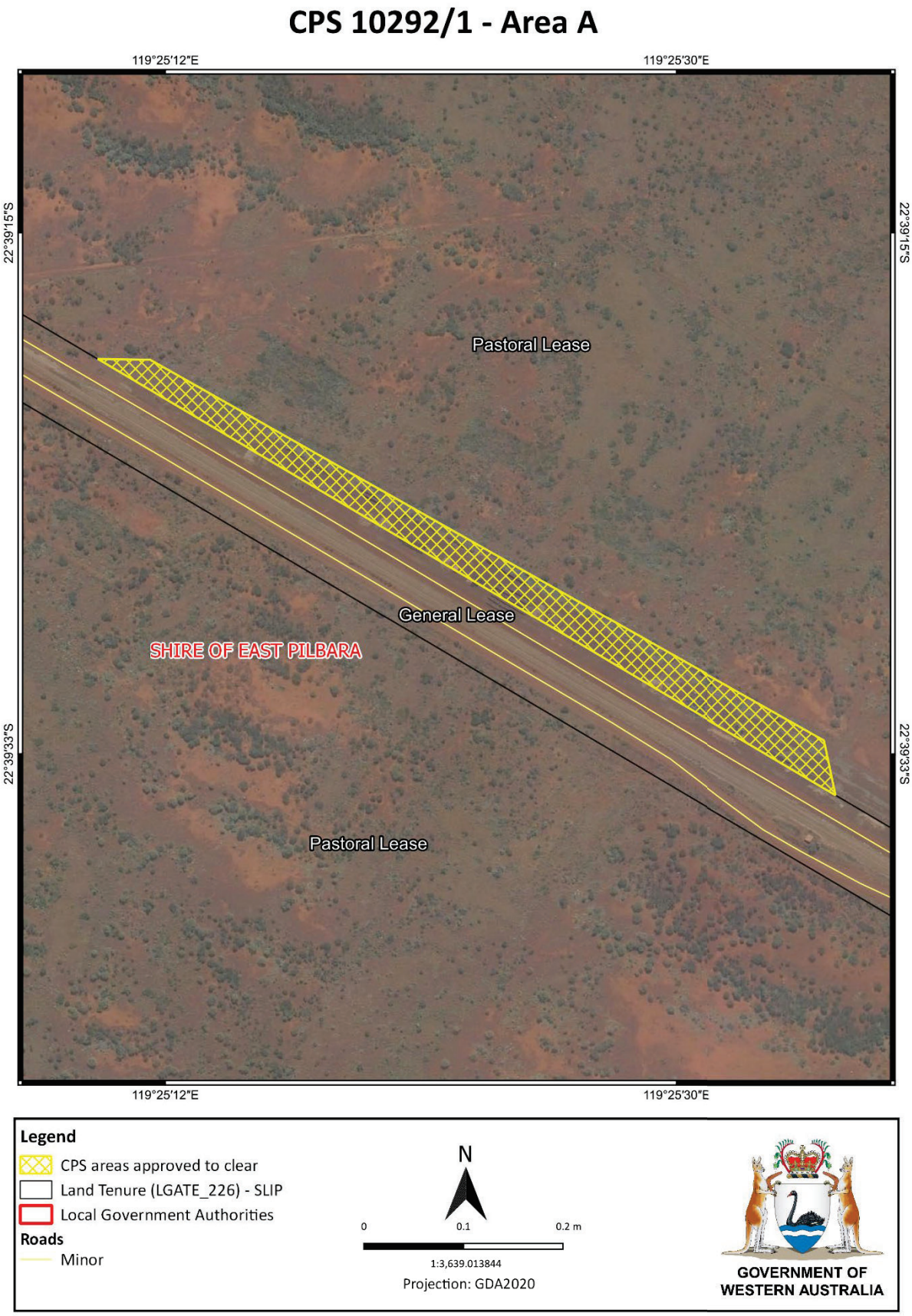

Figure 1: Map of the boundary of the area within which clearing may occur.

Figure 2: Map of the boundary of the area within which clearing may occur.

Figure 3: Map of the boundary of the area within which clearing may occur.

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10292/1
Permit type:	Purpose permit
Applicant name:	BHP Iron Ore Pty Ltd
Application received:	3 August 2023
Application area:	16.26 hectares of native vegetation
Purpose of clearing:	Removal of rail sleepers, soil testing, revegetation
Method of clearing:	Mechanical
Property:	Lot 1580 on Deposited Plan 72910 Lot 99 on Deposited Plan 220355
Location (LGA area/s):	Shire of East Pilbara
Localities (suburb/s):	Newman

1.2. Description of clearing activities

The application is to selectively clear native vegetation where necessary for the following purposes (BHP, 2023a):

- removal of old rail sleepers and other rail materials
- undertake soil testing for contamination
- rehabilitation following works

The vegetation proposed to be cleared is distributed across three separate areas (see Figure 1, Section 1.5). Each of these areas are adjacent to an existing railway on one side with the majority of the surrounding area composed of native vegetation.

1.3. Decision on application

Decision:	Granted
Decision date:	16 January 2024
Decision area:	16.26 hectares of native vegetation as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix G.1), vegetation and flora survey from the original project (see Appendix F), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration that the

proposed clearing areas are currently in a disturbed state due to the rail sleepers within the sites, and the other listed purpose to conduct soil contaminant testing which may have environmental and health implications.

The assessment identified that the proposed clearing will result in:

- the potential to impact northern quoll individuals that may utilise the area
- the loss of native vegetation that is suitable habitat for several species of ground dwelling fauna and the peregrine falcon
- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values and
- potential land degradation in the form of wind and water erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to appreciable land degradation or have long-term adverse impacts on conservation significant fauna. The applicant has suitably demonstrated avoidance and minimisation measures.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds
- works to commence within three (3) months of clearing to minimise the risk of wind and water erosion
- undertake slow, progressive one directional clearing to allow ground dwelling fauna to move into adjacent habitat ahead of the clearing activity
- fauna management
- revegetate and rehabilitate all cleared areas within 12 months of the areas no longer being required for the purpose they were cleared.

1.5. Site map

Figure 1a. Map of the application area (Area A)
The area crosshatched yellow indicate the area authorised to be cleared under the granted clearing permit.

CPS 10292/1 - Area B

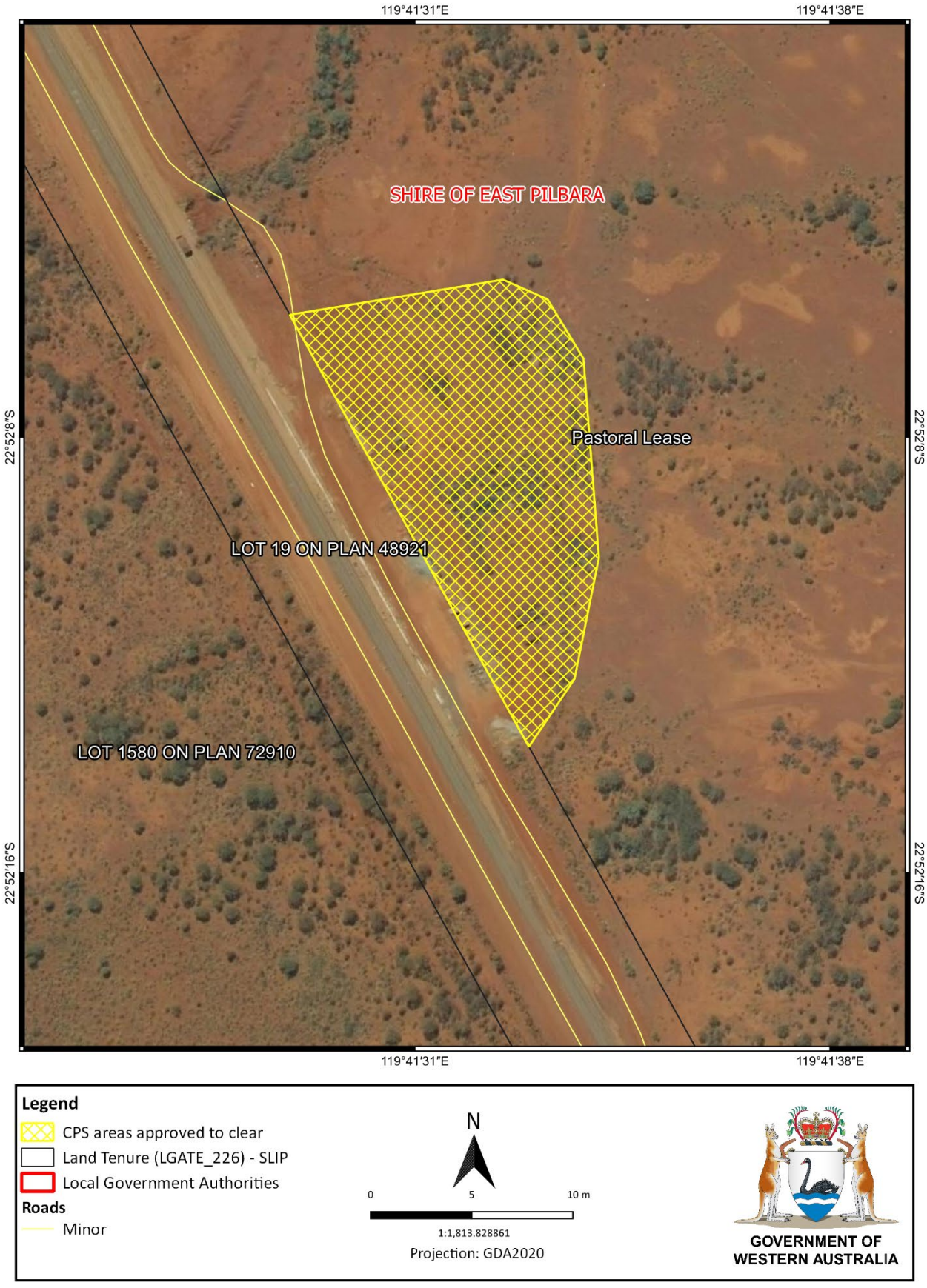

Figure 1b. Map of the application area (Area B)
The area crosshatched yellow indicate the area authorised to be cleared under the granted clearing permit.

CPS 10292/1 - Area C

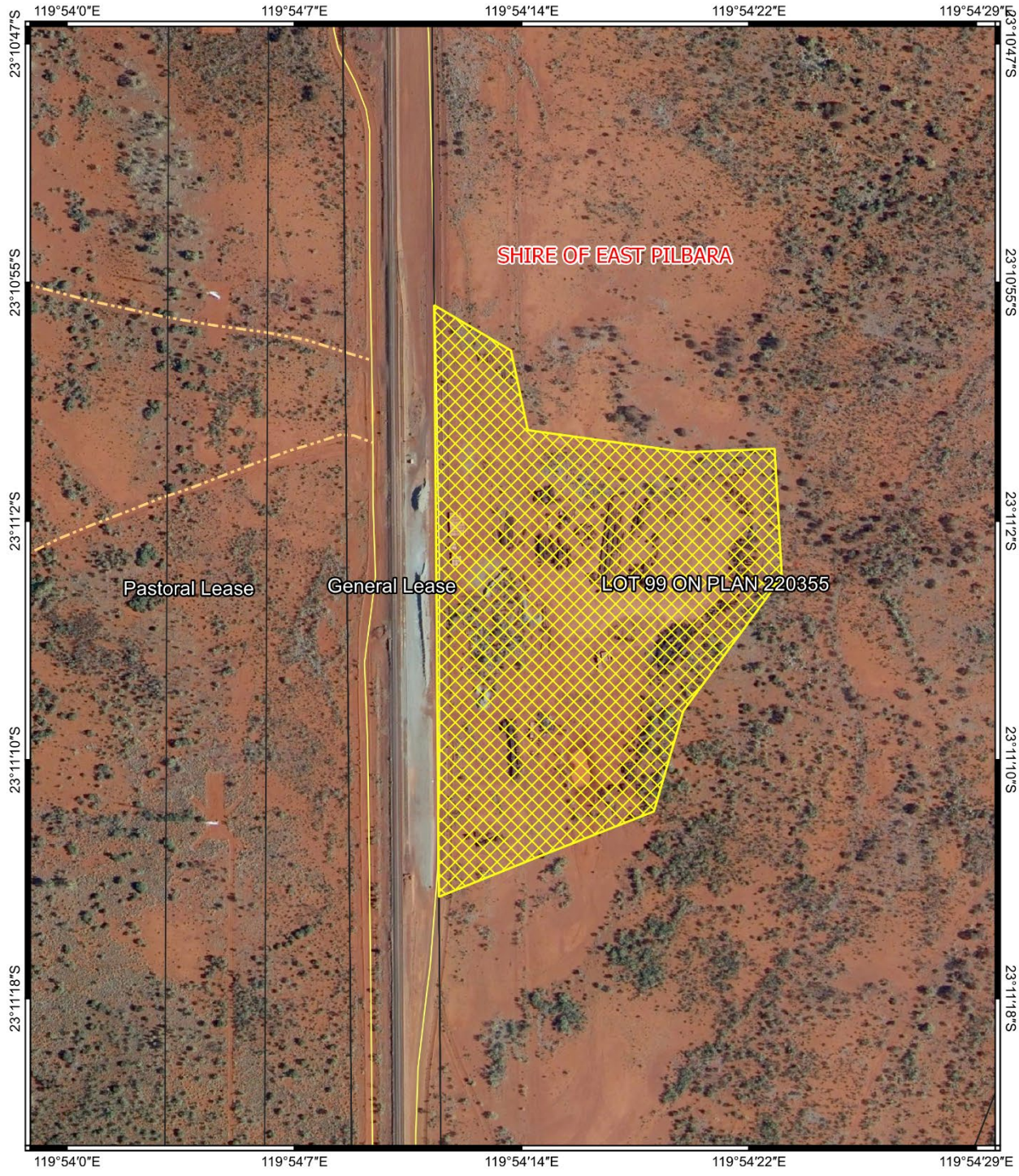

Figure 1c. Map of the application area (Area C)
The area crosshatched yellow indicate the area authorised to be cleared under the granted clearing permit.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The proposed clearing areas are constrained to areas of previous disturbance and clearing will only occur as necessary to remove the rail sleepers. Satellite imagery of the three areas suggests that they are largely bare and BHP have advised that the clearing permit is being sought as a precautionary measure (BHP, 2023b). Following the removal of the rail sleepers and soil contaminant testing is completed, revegetation and rehabilitation of each area will occur (BHP, 2023a).

Northern Quoll
A site inspection of Areas B and C of the proposed clearing conducted on November 29, 2023, identified northern quoll scats within Area B (BHP, 2023d). It was determined that the proposed clearing was unlikely to support a population and the scats were likely from individuals passing through the area.

To mitigate the risk of harming northern quoll that may be present, BHP have committed to having a fauna specialist on site both prior to and during clearing activities to inspect the clearing areas and relocate individuals if necessary.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed clearing present a risk to biological values (fauna) and land and water resources (land degradation). The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (fauna) - Clearing Principle (b)

Assessment
The desktop assessment identified 39 species of conservation significant fauna within the local area composed of 23 birds, 12 mammals, and four reptiles. A likelihood of occurrence assessment identified six species that may occur within the proposed clearing area, specifically:

- *Dasycercus blythi* (brush-tailed mulgara)
- *Dasyurus hallucatus* (northern quoll)
- *Falco peregrinus* (peregrine falcon)
- *Macrotis lagotis* (bilby)
- *Pezoporus occidentalis* (night parrot)
- *Pseudomys chapmani* (western pebble-mound mouse)

Northern quoll (EN)

The Northern Quoll (*Dasyurus hallucatus*) occupies a diverse range of habitats including rocky areas, eucalypt forest and woodlands, shrubland and grassland (Hill B.M and Ward S.J, 2010), but occurs predominantly in rocky habitat and often with gorges, breakaways and hills, with rugged rocky areas used for denning purposes, but can also occur along creek lines and beaches (Hill B.M and Ward S.J, 2010). The northern quoll has also been known to take up residence within disturbed mining infrastructure areas (BHP, 2023d). According to available databases, there are 508 records of the northern quoll within the local area, the nearest being 24.15 km from the proposed clearing.

On 29 November 2023, a site inspection of Area B and C conducted by BHP found scats identified to be from the northern quoll within Area B of the proposed clearing (BHP, 2023d) (Figure 2). No individuals of the northern quoll were identified within the proposed clearing area (BHP, 2023d).

Plate 3: Northern quoll scats at Chainage 345 km.

Plate 4: Northern quoll scats at Chainage 345 km.

Figure 2. Northern quoll scats found within area B of the proposed clearing (BHP, 2023d).

The proposed clearing is considered to be within the southern edge of the northern quoll's distribution which means that records of the species tend to be less common and further apart. This can account for why, despite the large number of northern quoll records within the local area, the nearest is still over 20 km from the proposed clearing areas. BHP (2023d) noted in their inspection that the site did not contain features that indicated critical or supporting habitat for the northern quoll given that the proposed clearing areas are already highly disturbed. Given the above, it is likely that the scats were from individuals passing through the area rather than a resident population, and therefore the proposed clearing is unlikely to result in the loss of critical habitat for the northern quoll.

Despite this, given that the northern quoll may be moving through the area, precautions should be implemented to minimise the risk of harming individuals that may be present. As discussed in Section 3.1. BHP have committed to having a fauna spotter on site during the clearing and remediation activities. With the addition of requirements under the clearing permit, the proposed clearing is not likely to significantly impact the northern quoll.

Other ground dwelling fauna (P4 – CR)

Four species of ground dwelling fauna have suitable habitat within the proposed clearing areas:

- *Dasycercus blythi* (brush-tailed mulgara) (P4)
- *Macrotis lagotis* (bilby) (VU)
- *Pezoporus occidentalis* (night parrot) (CR)
- *Pseudomys chapmani* (western pebble-mound mouse) (P4)

Brush-tailed mulgaras (*Dasycercus blythi*) are found in small, scattered populations between the Kennedy and Collier Ranges with a preference for arid, sandy areas with spinifex grasslands (DBCA, 2022). Mulgaras are known to reside in underground burrows during the day. According to available databases there are eight records of brush-tailed mulgara in the local area, the nearest being 16.59 km from the proposed clearing.

Bilby (*Macrotis lagotis*) are typically associated with tussock grasslands, mulga woodlands/shrublands, and hummock grassland in semi-arid to arid regions (DAWE, 2023). Generally, bilbies will reside in burrows during the daylight and feed on the surface at night (DAWE, 2023). According to available databases there are 36 records of Bilby within the local area, the nearest being 2.35 km from the proposed clearing areas.

Night parrots (*Pezoporus occidentalis*) are an elusive species with little known about their range and ecology, however, records suggest that the species prefers spinifex grasslands and chenopod shrublands, possible mulga woodland (DCCEEW, 2016). According to available databases there are nine records of the night parrot within the local area, the nearest being 17.47 km from the proposed clearing.

The western pebble-mound mouse (*Pseudomys champmani*) is typically associated with spinifex grasslands on stony soils where it builds and resides in mounds. According to available databases there are 464 records of the western pebble-mound mouse in the local area, the nearest being 11.43 km from the proposed clearing.

The proposed clearing areas are unlikely to comprise significant habitat for any of the species above. Aerial imagery of the proposed clearing areas and vegetation mapping from the original railway project (ENV, 2008) (See Appendix E) suggests that the vegetation within the proposed clearing area is in poor (Trudgen, 1991) condition from previous disturbances such as clearing and the storage of rail sleepers. Furthermore, none of the ground-dwelling fauna species are restricted to the habitat within the proposed clearing areas with extensive habitat present surrounding all of the clearing areas. The site inspection of Areas B and C conducted in November 2023 also did not identify any evidence of the species listed above (BHP, 2023d).

It is acknowledged that there are records of these species in close proximity to the clearing area due to the presence of suitable habitat surrounding the proposed clearing areas and therefore, ground dwelling fauna may be occasional visitors to the sites. To mitigate against any potential impacts to individuals present at the time of clearing, conducting clearing in a slow, directional manner towards adjacent native vegetation will allow fauna to escape ahead of the clearing activity.

Given that revegetation and rehabilitation is planned to occur within the application areas, it is unlikely the proposed clearing will have long-term impacts on habitat availability for threatened or priority fauna species.

Peregrine falcon (OS)
The peregrine falcon (*Falco peregrinus*) typically nests on rocky ledges in tall, vertical cliff faces and gorges, or in tall trees associated with drainage lines, and can hunt in a range of habitat types including timbered watercourses, riverine environments, wetlands, plains, open woodlands, and pylons and spires of buildings (DAWE, 2021). The desktop assessment found 34 records of the species within the local area, the nearest being 1.00 km from Area B.

The peregrine falcon is a highly mobile species with a large home range that does not rely on specialist niche habitats, it is unlikely that the application area represents significant habitat for the species. Further, noting that the application areas are highly disturbed and are adjacent to larger intact remnants of native vegetation, it is unlikely that the peregrine falcon would be reliant on the application area for foraging in the local area.

Conclusion
Based on the above assessment, the proposed clearing may impact on individuals of the northern quoll that may be present within the proposed clearing areas and result in the loss of suitable habitat for other species of ground dwelling fauna.

For the reasons set out above, it is considered that the impacts of the proposed clearing on the northern quoll can be managed by conducting pre-clearance inspections of the clearing areas and impacts on ground dwelling fauna can be managed by slow directional clearing to allow fauna to move into adjacent vegetation and rehabilitating the site post clearing to ensure the habitat is not permanently lost.

Conditions
To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Fauna management conditions requiring a pre-clearing inspection of the application area for presence of northern quoll.
- Slow directional clearing to allow ground dwelling fauna to move into adjacent vegetation ahead of the clearing activity will minimise impact to individuals.
- Rehabilitating the site post clearing to ensure that habitat is not lost.

3.2.2. Land and water resources (land degradation) - Clearing Principle (g)

Assessment
According to available databases, the soil within all three of the proposed clearing areas are at high to extreme risk of wind erosion and water erosion. The proposed clearing may cause land degradation in the form of wind and water erosion if soils are left exposed for extended periods post clearing.

The revegetation and rehabilitation planned to follow the removal of the rail sleepers will likely reduce the potential for land degradation over the long-term following completion of the works associated with the clearing.

Conclusion
For the reasons set out above, it is considered that the impacts of the proposed clearing on wind erosion and water erosion can be managed by minimising the time between clearing and post-clearing activities and rehabilitating the site following the completion of the post-clearing activities.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Removal of the rail sleepers and soil testing must commence within three (3) months of clearing; and
- Rehabilitating the sites following the removal of the rail sleepers and to minimise the risk of wind erosion and/or water erosion from occurring.

3.3. Relevant planning instruments and other matters

The Shire of East Pilbara (Shire) advised DWER that local government approvals are not required. The Shire did not have any objections to the proposed clearing.

No Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Clearing Permit CPS 7009/3

The desktop assessment identified that Area C overlapped with a portion of the approved clearing footprint under CPS 7009/3 also held by BHP Iron Ore Pty Ltd, for the purpose of rail construction, maintenance and associated activities which was assessed and granted by the Department of Mines, Industry Regulation and Safety (DMIRS) (DMIRS, 2021).

The Applicant advised that the during the original assessment for CPS 7009/1 it was determined that Area C was off-tenure and the permit boundary was clipped, however, an error occurred when the permit was granted that saw the original footprint granted (BHP, 2023c). DMIRS and BHP discussed the issue at the time and BHP agreed not to access the site under CPS 7009 (BHP, 2023c). It was noted during the assessment that the error has remained part of the clearing footprint when the amendments CPS 7009/2 and 7009/3 were granted. DWER have since notified DMIRS of the error for future amendments.

Based on the above, the Delegated Officer was satisfied that granting CPS 10292/1 will not impact on BHP's ability to comply with the conditions on either permits.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Response to request for site photographs: Applicant did not have on ground photographs of the vegetation, however, was able to provide clearer, close up imagery of the sites.	Satellite imagery can be found in Appendix E.
Advised that the inclusion of the section that overlaps Area C was an error from the grant of CPS 7009/1.	See Section 3.3. Planning and other matters.
Memorandum outlining the results of a site inspection of Areas B and C where scats from the northern quoll were identified in area B.	See Section 3.1. Avoidance and mitigation and Section 3.2.1. Biological values (fauna)

Appendix B. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

B.1. Site characteristics

Characteristic	Details
Local context	The areas proposed to be cleared are part of a part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is surrounded by native vegetation, railway and mining tenements. The proposed clearing areas are part of a large area of native vegetation. Aerial imagery indicates the local area (50-kilometre radius) from the centre of the area proposed to be cleared retains approximately 99.35 per cent of the original native vegetation cover.
Ecological linkage	The proposed clearing areas are not mapped within any formal ecological linkages.
Conservation areas	One conservation area, a land of DBCA interest is mapped within the local area, approximately 13.33 km from the application area.
Vegetation description	Mapping provided by the applicant based on the vegetation survey (ENV, 2008) indicates the vegetation within the proposed clearing area consists of: • Area A – Triodia hummock grassland • Area B – Acacia low woodland • Area C – mostly disturbed, cleared areas with small areas of *Acacia synchronicia* shrubland Maps of the vegetation are available in Appendix F. This is consistent with the mapped vegetation type(s): • Beard 29, which is described as sparse low woodland; mulga, discontinuous in scattered groups (Shepherd et al, 2001) The mapped vegetation type retain approximately 99.94 per cent of the original extent (Government of Western Australia, 2019).
Vegetation condition	The Vegetation survey (ENV, 2008) listed the vegetation condition based on the quadrats which indicate the vegetation within the proposed clearing areas are as follows (Trudgen, 1991): • Area A – Poor Condition • Area B – Very Poor Condition • Area C – Poor to Very Poor Condition The full Trudgen (1991) condition rating scale is provided in Appendix D. The full survey descriptions and mapping are available in Appendix F.
Climate and landform	The Newman region has a hot desert climate. The mean maximum temperature is 32.2 degrees Celsius with a mean rainfall of 316.7 mm.

Characteristic	Details
Soil description	The soil is mapped as the Fan System which is described as washplains and gilgai plains supporting groved mulga tall shrublands and minor tussock grasslands. The majority of the soil is mapped as red loamy earth.
Land degradation risk	All proposed clearing areas are mapped as having a high to extreme hazard risk for water erosion, wind erosion, and phosphorous export.
Waterbodies	The desktop assessment and aerial imagery indicated that no watercourses transect any of the areas proposed to be cleared. There are two waterbodies mapped within one kilometre of the application: • Fortescue River (minor river) – 0.36 km from Map B • Fortescue river (lake) – 0.76 km from Map B The Fortescue Marshes which are listed under the Directory of Important Wetlands Australia (DIWA) and are a draft RAMSAR site. The DIWA boundary is mapped 17.77 km north of the application and the RAMSAR boundary is 13.49 km north of the application.
Hydrogeography	The proposed clearing is mapped within the Pilbara Surface Water Area and Pilbara Groundwater Area. The nearest Public Drinking Water Source Area (PDWSA) is the Newman Water Reserve located 11.04 km south of the application area. The soils within the proposed clearing areas are mapped as moderate to high risk of flooding and moderate to very high risk of waterlogging.
Flora	2551 records across 63 species of conservation significant flora are mapped within the local area (50-kilometre radius). No species were mapped within one kilometre of the application areas, the nearest being *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3) located approximately 2.20 km south-west of Map C. The original vegetation survey identified four priority flora species occurring within the project area, none of which were identified within the proposed clearing areas.
Ecological communities	No threatened or priority ecological communities (TEC/PEC) are mapped within any of the proposed clearing areas. Eight PECs and one TEC are recorded in the local area (50-kilometre radius) the nearest being the Fortescue Valley Sand Dunes Priority 3 PEC which is located 6.96 km south-west of Map B.
Fauna	2993 records across 39 fauna species of conservation significance are recorded within the local area. One species was recorded close to the application areas, *Falco peregrinus* (peregrine falcon) (OS), located approximately one kilometre east of Map C. While habitat mapping was provided with the application, this did not encompass the areas proposed to be cleared and therefore were not used to assess fauna likelihood.

B.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Pilbara	17,808,657.04	17,731,764.88	99.57	1,801,714.98	10.11707382
Vegetation complex					
Beard vegetation association 29*	7,903,991.45	7,898,973.24	99.94	496367.56	6.283950402
Local area					
50km radius	1,549,355.39	1,539,225.80	99.35	-	-

*Government of Western Australia (2019a)

B.3. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Dasycercus blythi (brush-tailed mulgara)	P4	Y	Y	16.59	8	N/A
Dasyurus hallucatus (northern quoll)	EN	N	N	24.15	508	N/A
Falco peregrinus (peregrine falcon)	OS	N	Y	1.00	34	N/A
Macrotis lagotis (bilby)	VU	Y	Y	2.35	36	N/A
Pezoporus occidentalis (night parrot)	CR	Y	Y	17.47	9	N/A
Pseudomys chapmani (western pebble-mound mouse)	P4	Y	Y	11.43	464	N/A

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

B.4. Land degradation risk table

Risk categories	*Description*
Wind erosion	99% of map unit has a very high to extreme hazard
Water erosion	99% of map unit has a high to extreme hazard

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared does not contain regionally significant flora, fauna, habitats, or unique assemblages of plants. The sites have previously been cleared to store the rail sleepers with patchy areas of sparse vegetation.	Not likely to be at variance	No
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."* Assessment: The disturbed condition of the proposed clearing areas means that the proposed clearing is unlikely to contain significant habitat for fauna, however, evidence of the northern quoll was identified within the proposed clearing area.	May be at variance	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: No threatened flora are recorded within the local area, and the poor (Trudgen, 1991) condition of the vegetation which is subject to ongoing disturbance is unlikely to support threatened flora.	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
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."* Assessment: The area proposed to be cleared is not mapped as a TEC. The nearest TEC is the Ethel Gorge aquifer stygobiont community listed as critically endangered under the BC Act. The vegetation within the proposed clearing areas is not indicative of this community.	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
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."* Assessment: The extent of the mapped vegetation type and native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.	Not likely to be at variance	No
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."* Assessment: The proposed clearing is not mapped within or adjacent to any conservation areas and given the distance to the DBCA Land of Interest, the proposed clearing is unlikely to impact on conservation areas.	Not likely to be at variance	No
Environmental value: land and water resources		
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."* Assessment: No watercourses are recorded within the proposed clearing area. Two minor, non-perennial tributaries of the Fortescue river are recorded within one kilometre of the proposed clearing areas, however, given the presence of already existing disturbance from the railway, the proposed clearing is unlikely to significantly impact on these watercourses.	Not likely to be at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are highly susceptible to wind erosion, water erosion, and phosphorous export. Noting the extent of the application area and the condition of the vegetation, the proposed clearing is not likely to have an appreciable impact on land degradation.	May be at variance	Yes *Refer to Section 3.2.2, above.*
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."* Assessment: Given no watercourses are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality.	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: Given the condition of the vegetation, already existing disturbance, and no presence of watercourses within the proposed clearing area, the application is unlikely to contribute to increased incidence or intensity of flooding.	Not likely to be at variance	No

Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

Appendix E. Imagery of the vegetation

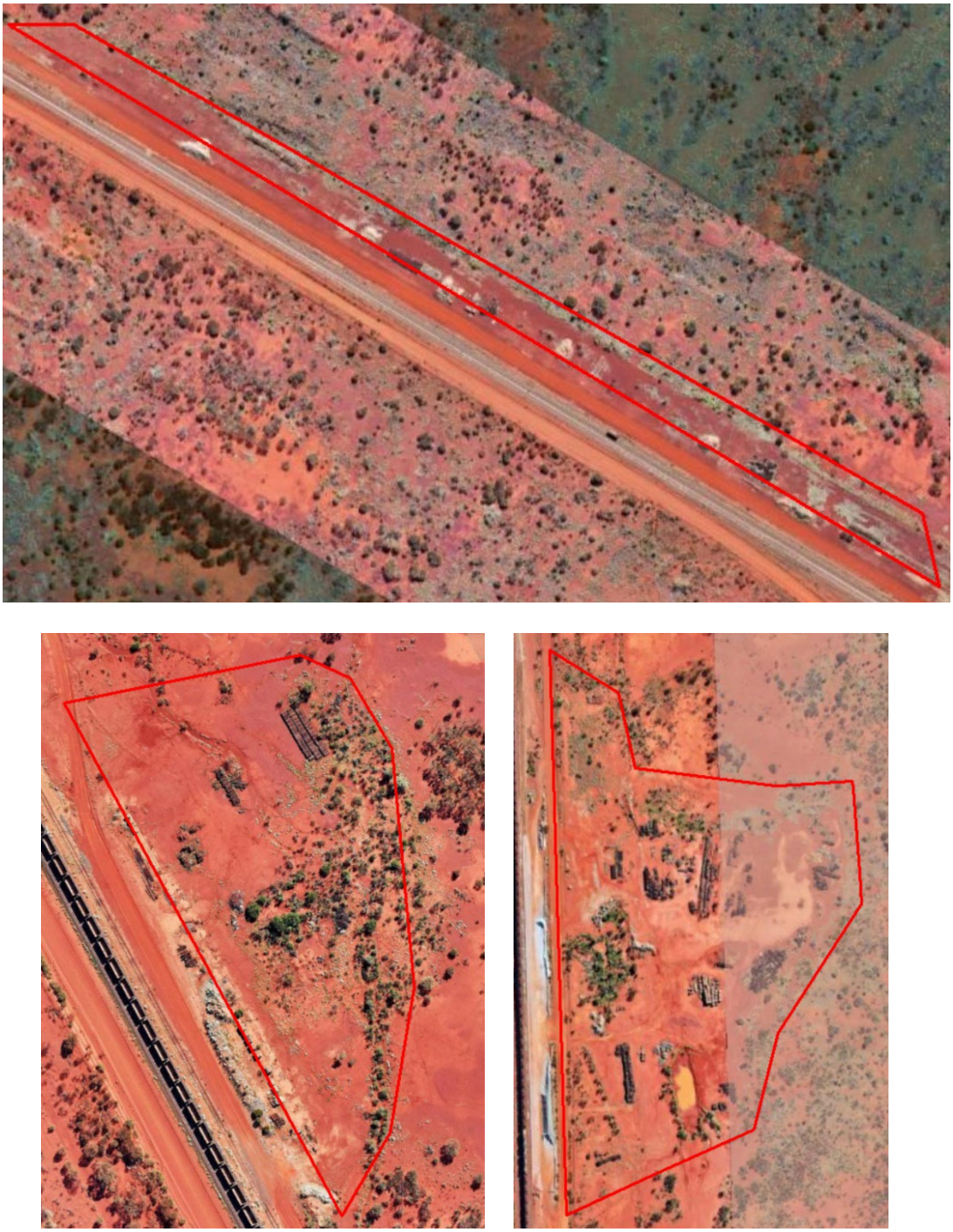

Figure 2. Aerial imagery of Area A (Top), Area B (Bottom left), and Area C (Bottom right) (BHP, 2023b).

Figure 3. Photograph of Area B (left) and Area C (right) from the site inspection (BHP, 2023d).

Appendix F. Survey excerpts

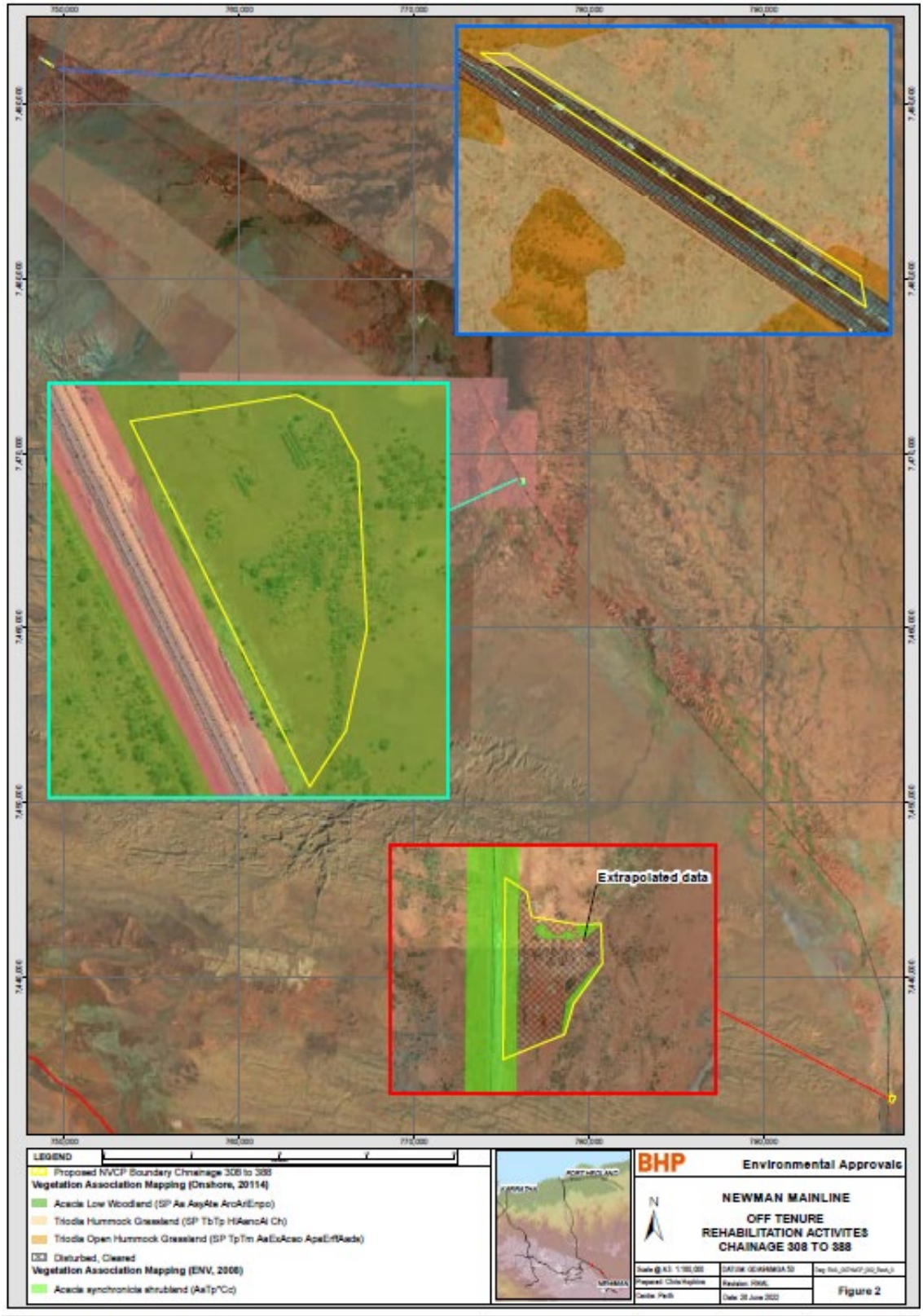

Figure 4. Vegetation mapping of the proposed clearing areas (BHP, 2023a)

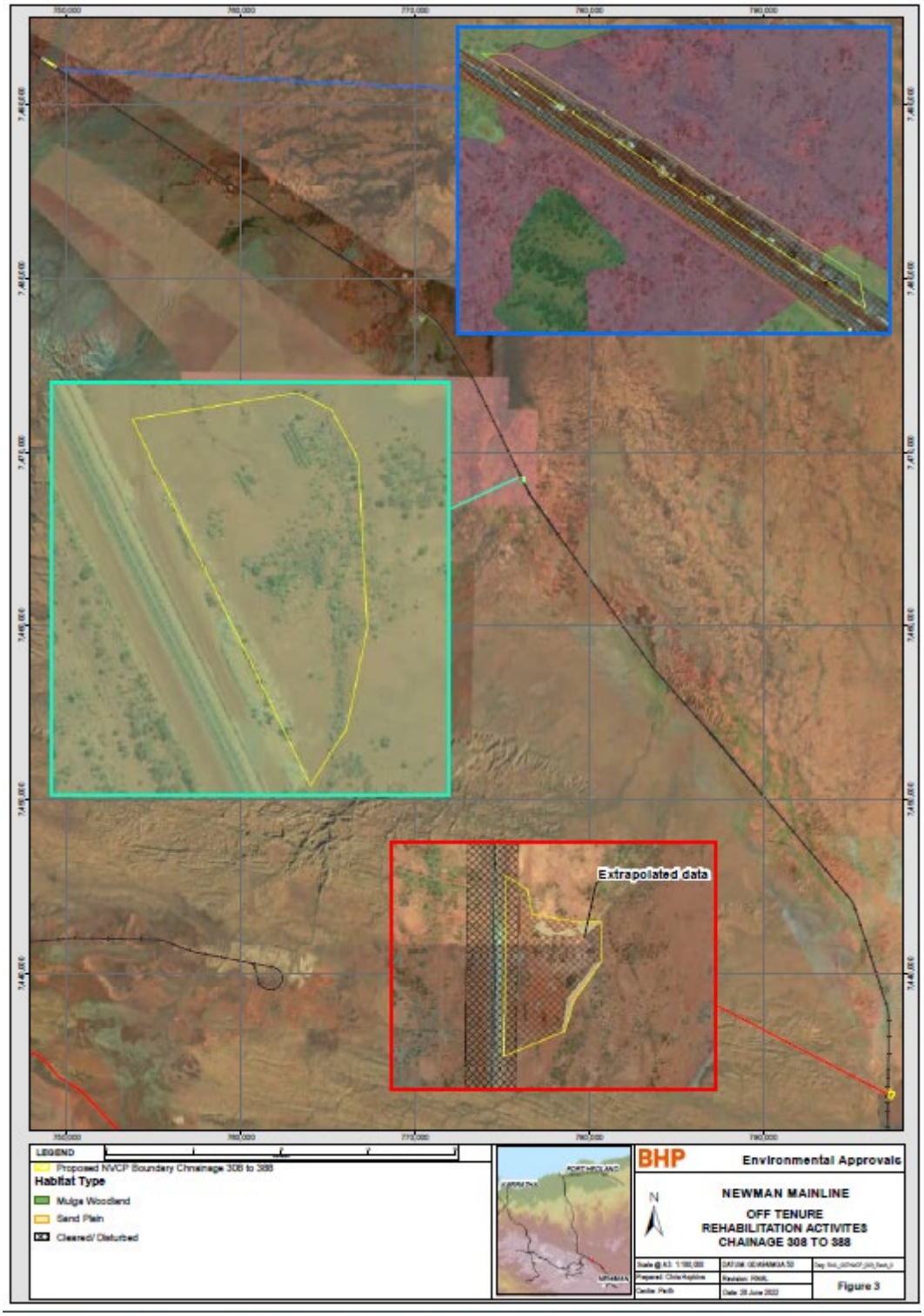

Figure 5. Habitat mapping of the proposed clearing area (BHP, 2023a)

YA31	Poor	Red, brown loam with some clay content	*Acacia bivenosa*, *Acacia aneura* var. *intermedia* and *Acacia pruinocarpa* high open shrubland over *Senna artemisioides* subsp. *oligophylla* scattered shrubs over *Corchorus sidoides* low open shrubland over *Triodia pungens* open hummock grassland over **Cenchrus ciliaris*, *Enneapogon polyphyllus* and *Digitaria ctenantha* open tussock grassland.
YAR12	Poor	Red, brown loamy clay	*Acacia ancistrocarpa* and *Acacia pruinocarpa* high shrubland over *Triodia pungens* scattered hummock grasses over **Cenchrus ciliaris* and *Aristida inaequiglumis* open tussock grassland.
YA39	Poor	Red, brown loam	*Acacia aneura* var. *intermedia*, *Acacia ancistrocarpa*, *Acacia pruinocarpa* and *Acacia synchronicia* high shrubland over *Senna artemisioides* subsp. *oligophylla* scattered shrubs over **Cenchrus ciliaris* and *Eulalia aurea* closed tussock grassland.

Figure 6. Vegetation condition and descriptions of closest quadrats to Area A (ENV, 2008)

YB57	Very Poor	Red, brown loam	*Acacia synchronicia* and *Acacia tetragonophylla* open scrub over *Senna artemisioides* subsp. *oligophylla* x *helmsii* shrubland over *Sclerolaena cornishiana*, *Sida* aff. *fibulifera* (HD200-6), *Ipomoea muelleri* and *Gossypium australe* (Burrup Peninsula form) low shrubland over **Cenchrus ciliaris*, *Eragrostis xerophila* and *Dactyloctenium radulans* open tussock grassland over *Boerhavia repleta*, **Portulaca oleracea*, *Streptoglossa bubakii* and *Boerhavia coccinea* very open herbland.

Figure 7. Vegetation condition and description of closest quadrats to Area B (ENV, 2008)

YB18	Poor	Fine red, brown sand	*Grevillea striata* high open shrubland over *Eremophila forrestii* subsp. *forrestii*, *Sclerolaena cornishiana*, *Senna artemisioides* subsp. *oligophylla* x *helmsii*, *Senna artemisioides* subsp. *helmsii*, *Solanum lasiophyllum*, *Rhagodia eremaea*, *Hakea lorea* subsp. *lorea* and *Maireana planifolia* low shrubland over *Triodia epactia* and *Triodia pungens* very open hummock grassland over *Aristida ingrata*, **Cenchrus ciliaris*, *Dactyloctenium radulans*, *Chrysopogon fallax*, *Themeda triandra* and *Aristida contorta* tussock grassland over *Trianthema pilosa* scattered herbs.
YB19	Poor	Fine red, brown sand	*Corymbia aspera* low scattered trees over *Acacia tetragonophylla*, *Acacia synchronicia* and *Hakea lorea* subsp. *lorea* open scrub over *Senna artemisioides* aff. subsp. *oligophylla* (thinly sericeous), *Ptilotus obovatus* var. *obovatus*, *Eremophila forrestii* subsp. *forrestii*, *Senna artemisioides* subsp. *helmsii*, *Maireana villosa*, *Sclerolaena cornishiana*, *Maireana planifolia* and *Solanum lasiophyllum* low shrubland over *Triodia pungens* very open hummock grassland over **Cenchrus ciliaris*, *Dactyloctenium radulans*, *Tragus australianus* and *Eragrostis* aff. *eriopoda* (WAS site 963) tussock grassland over *Gomphrena kanisii*, *Goodenia prostrata* and *Boerhavia coccinea* very open herbland.
YB23	Poor	Fine red sand	*Acacia synchronicia* high open shrubland over *Senna artemisioides* subsp. *oligophylla* x *helmsii* and *Hakea lorea* subsp. *lorea* shrubland over *Senna artemisioides* aff. subsp. *oligophylla* (thinly sericeous), *Maireana villosa*, *Solanum lasiophyllum* and *Sida* aff. *fibulifera* (FMG 125-20) low open shrubland over **Cenchrus ciliaris*, *Tragus australianus*, *Aristida contorta*, *Chrysopogon fallax*, *Dactyloctenium radulans* and *Eragrostis xerophila* closed tussock grassland over *Gomphrena* kanisii and *Goodenia prostrata* very open herbland.

Figure 8. Vegetation condition and description of closest quadrats to Area C (ENV 2008).

Appendix G. Sources of information

G.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)

- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

G.2. References

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BHP Iron Ore Pty Ltd (BHP) (2023b) *Supporting information for CPS 10292/1 – Aerial imagery*, received 20 October 2023 (DWER Ref: DWERDT854952).

BHP Iron Ore Pty Ltd (BHP) (2023c). *Additional supporting information for CPS 10292/1 – overlapping permit footprints*, received 25 October 2023 (DWER Ref: DWERDT856181)

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